DOCUMENT RESUME

ED 200 205 IR 009 238

AUTHOR Turner, Ann; And Others
TITLE DOBIS-WLN Impact Study. Report.
INSTITUTION British Columbia Union Catalogue, Richmond.
REPORT NO ISBN-0-919093-02-7
PUB DATE Jul 80
NOTE 75p.; For related documents, see IR 009 236-240.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Cataloging; Comparative Analysis; *Data Processing; *Information Retrieval; Information Storage; Library Automation; *Library Networks; Library Surveys; *Online Systems; Personnel Needs; Questionnaires
IDENTIFIERS *British Columbia; Washington Library Network

ABSTRACT

Conducted to gather information on the practical impact of implementing either the Washington Library Network (WLN) system or one of two versions of the DOBIS system in British Columbia Union Catalogue (BCUC) member libraries, this study addressed four questions: (1) the effect the introduction of the new system would have on workflows; (2) whether existing job descriptions, classifications, and pay grades would need to be altered to accommodate workflow changes; (3) what retraining and reorganization would be required in libraries already using UTLAS as a cataloging utility; and (4) changes in productivity that could be expected when the new system was operational. Results and conclusions are summarized, and data gathered from a questionnaire distributed to six libraries using the Canadian National Library on the College Bibliocentre version of DOBIS or WLN are detailed. Appendices provide a list of documentation examined, guidelines for the WLN review process, and the DOBIS table of system limitations. (FM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED200205

Ministry of Education (Project Planning Centre)
Library Needs Assessment
BCUC Replication Study Document
Design Phase: DOBIS and WLN Comparison

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

DOBIS-WLN IMPACT STUDY

Report

by

Ann Turner
(University of British Columbia Library)

Carolyn A. Hoffman
(Burnaby Public Library)

Shirley Ward
(B.C. Legislative Library)

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Paul E. Baldwin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

REVISED JULY 1980

Richmond, B.C., British Columbia Union Catalogue

IR009238

Acknowledgements

The members of the study team are grateful for the kind and patient assistance of the following people in providing answers to our questions:

DOBIS

College Bibliocentre:	Patrick Ellwood, Vice President, Administration, Centennial College Manek Khambatta, Projects Manager Doreen Carpenter, Director, AcquiCaP Helja Khan, Head Cataloguer
National Library of Canada:	Nancy Brodie, Union Catalogue of Books Division Gérard Ippersiel, Periodicals Section, Public Services Branch Mary Joan Dunn, Library Systems Centre Jean-Eudes Bériault Library Systems Centre

WLN

Pacific Lutheran University Library:	John W. Heussman, Director Edith Landau, Head of Technical Services
King County Library System:	Herbert F. Mutschler, Director Erma Jean Morgan, Deputy Librarian, Technical Services Alethea Putnam, Head Cataloguer
Washington State Library:	Ray Deluse, Manager, Development and Library Services, WLN Rosemary Scheld, Network Review Librarian, WLN

Contents

I. Introduction.
- A. Purpose of the study
- B. Study procedure

II. Summary of results and conclusions
- A. Summary
- B. Effect on workflows, staffing and productivity
- C. Retraining
- D. Summary of major good and bad features
- E. Changes required prior to implementation
- F. Cataloguing feature analysis

III. Detailed results: the answers to the questionnaire
- A. The System as a whole
- B. On-line searching
- C. Cataloguing: institutional observations
- D. Cataloguing: questions
  1. Description
  2. Classification
  3. Access points
  4. Holdings
  5. Quality control
- E. Products
- F. Training and implementation concerns

Appendices:
- A. Documentation examined
- B. Guidelines for the Network Review process (WLN)
- C. Table of System Limitations (DOBIS)

Introduction

Purpose of the study

The study team was established by the BCUC Executive Committee on May 20, 1980, to gather information for the BCUC membership concerning the practical impact of implementing the WLN and DOBIS systems in BCUC member libraries. Specifically, the team was to consider:

1. What effect the introduction of the new system would have on workflows

2. Whether there would be a need to alter existing job descriptions, classifications, and pay grades to accommodate workflow changes

3. What retraining and reorganization would be required in libraries already using UTLAS as a cataloguing utility

4. What changes in productivity could be expected when the new system was operational

In addition to these questions, which were included in our mandate from the BCUC Director, the Study Team felt that it was necessary to examine the cataloguing- and searching-related features of the two systems in detail to determine whether either or both systems had limitations that would impact on the cataloguing process as it is presently established according to UTLAS' capabilities. We also hoped that the two systems under study would include new time- and labour-saving features which are not, at present, provided by UTLAS.

The information gathered by the Study Team is supplementary to that collected by Ringgold Management Systems, Inc. Ringgold's mandate included an examination of the technical and economic feasibility of replication, and an evaluation of the general technical capability of the two systems to satisfy BCUC requirements. Its point of view was primarily that of the administrator. The Study Team's vantage point is closer to the shop floor. We focussed on the nitty-gritty details of how the systems performed for the cataloguer, searcher and data entry operator. Only an actual pilot project will answer all the questions about a system's operational details, but we hoped to gather sufficient information from our study to be able to assess generally whether productivity would be affected significantly by either system.

Study procedure

1. The Study Team developed in advance a set of questions to guide our information-gathering efforts and our observation of the two systems in operation. These questions are given, with the answers we collected, in the Detailed Results section of this report.

2. We examined the documentation for each system which was available in the BCUC Project Office, collected more documentation on our travels, and also reviewed the information collected by Ringgold Management Systems.

3. During May and early June we visited several libraries that are now using one of the systems:

   Pacific Lutheran University Library, Tacoma, Wash.

   King County Library System Service Center, Seattle, Wash.

   WLN Network Office, Washington State Library, Olympia, Wash.

   College Bibliocentre, Toronto, Ont.

   National Library of Canada, Ottawa, Ont.

   CISTI, Ottawa, Ont.

4. We evaluated both systems in terms of the answers we had obtained to our questions.

Summary of results and conclusions

The Study Team examined three systems: Washington Library Network (WLN), DOBIS as implemented by College Bibliocentre (CLL DOBIS), and DOBIS as implemented by the National Library of Canada (NL DOBIS). Though both DOBIS versions developed from a common parent, IBM DOBIS, they grew in different ways; they are no longer clones of the parent, nor even twins of each other. Both institutions modified the basic system to suit their particular needs, and the resulting systems are sufficiently different from one another that special features developed on one version can not be moved to the other without programming.

All three systems are "good" systems, in the sense that their users are pleased with the way the systems operate and the products they produce. All three of them are compatible with the MARC bibliographic format and the cataloguing standards we follow in BCUC: AACR; LC, Dewey, NLM, and local classification systems; LC, Canadian, and NLM subject headings. Each of them has special features that make the system particularly attractive, such as WLN's highly developed quality control module, CLL's on-line product generation, and NL's authority control development.

On the other hand, not one of the three systems would be useable in the BCUC environment without some modification. WLN has not yet implemented its detailed holdings subsystem, although it has been coded and tested; CLL does not handle serial records; and NL has not yet begun regular card or COM production from its DOBIS files, although this is expected in early July. Considerable preparatory work has been done on all three systems in the areas noted, but the fact remains that if we bought any one of them it would require alterations before we could use it.

The decision as to which of the three systems would be best for BCUC from the cataloguer's point of view is not an easy one to make. We embarked on this study hoping that the information we collected would show us a winner, a clearly superior system. We looked at our results, and realized that the decision would have to be made on the basis of trade-offs; each of the systems has good features and bad features, and they are different features in each one. One of the trade-offs is that of current development vs. future potential. Much of the future for the system acquired by BCUC will depend on our own development work, although the preparatory work already done by the institution from which we acquire the system, and the system's present state of development, must be considered extremely important factors in the short run. We confess to being optimists, and unanimously select the National Library version of DOBIS, with the qualification that it will probably require more initial work than the others to bring it into production. NL DOBIS was our "gut reaction" choice, after seeing the three systems, and our initial impression was confirmed when we summarized the good and bad features of the systems for this report. With the assistance of Dr. Ralph Shoffner, we subjected our findings to a simple numeric weighting and scoring analysis; again NL DOBIS emerged the winner, although scores for both versions of DOBIS were very close.

Effect on workflows, staffing, and productivity

We expected to find that DOBIS would alter existing workflows and staffing patterns considerably more than WLN. WLN is very similar to UTLAS in many respects.

On both WLN and UTLAS, original cataloguers have minimal interaction with the system at the terminal. Typically, for original input, the cataloguer writes or types a complete worksheet for the new record, and this data is keyed into the system by an input typist working at the terminal. DOBIS is set up so that the cataloguer works on-line, using the system as a sort of electronic worksheet. In WLN, the cataloguer consults the authority files on-line, but copies the headings found onto the worksheet for the input typist to re-key into the system when the new record is entered. DOBIS allows the cataloguer to capture headings found during the on-line authority search and use them in the record being created without either writing them down or re-keying them. Against this time-saving feature we must balance the fact that cataloguers do not normally have the typing speed of a terminal input operator.

There is only one institution that we know of in which the traditional worksheet input system was replaced by DOBIS: College Bibliocentre. Since this institution used UTLAS prior to implementing DOBIS, it is worthwhile to look at their experience in moving from the one system to the other. Some of Bibliocentre's cataloguers were unable to type when the change was accomplished, yet their productivity is now the same as it was on the old system. The number of cataloguers remained the same, and the data entry staff were eliminated from the original input operation. Derivative cataloguers work on-line in both the WLN/UTLAS-type system and in DOBIS. Bibliocentre found that productivity remained the same and work flow patterns were not affected. Added copies/volumes staff also work on-line in both types of system. The added copies productivity increased under DOBIS.

We expected to find that the installation of DOBIS would change the traditional workflow patterns beyond recognition. Rumours were flying that with DOBIS it was necessary to sort the work according to the sequence of commands that would be used to catalogue it, e.g. grouping all the books with personal authors together. We were agreeably surprised to find the traditional workflows still practically unchanged at Bibliocentre:

1. Incoming books are searched against the database by the staff who add copies.

2. Added copies are identified and processed then and there; added volumes are routed to the more senior staff member who processes them.

3. New titles for which copy is found in the database go to derivative cataloguers for processing.

4. New titles for which copy is not found in the database are searched in the old card catalogue, NUC, and other printed bibliographies. If copy is found, it is entered in the database by a senior derivative cataloguer.

5. Titles for which no copy is found go to the original cataloguers.

The only major change from the traditional pattern was made to facilitate matching of products to books: all product-ordering is done by the on-line searcher/adders. This means that, for a new title, the cataloguer enters the record on the system or verifies that a record already there is an exact match, and then returns the book to the searcher/adders to have the holdings added and products ordered. Since the products are produced and processing of the book completed within a matter of hours at Bibliocentre, this appears to be a worthwhile change.

The levels of staffing for the different operations also remained unchanged. Original cataloguing and the difficult catalogue maintenance work (revisions and authority problems) are done by professionals. Derivative cataloguing is done by junior paraprofessionals, with senior paraprofessionals handling the difficult ones, doing some of the easier catalogue maintenance work, and training. Initial on-line searching and added copies work is done by "clerks", who appear to be one step below the junior paraprofessionals in the hierarchy. Since none of the BCUC institutions receive book marking products from UTLAS, the staffing of the book processing area could be affected by the installation of DOBIS if these products were generated by the system. The marking staff would no longer type spine labels and book cards, but would still be required to match these products to the books and complete the physical processing. Having the system produce these products should eliminate the proofreading of the marking products beyond a simple check to be sure the book has received the correct processing kit.

Because WLN is so similar to UTLAS, installation of the WLN system would not affect our present workflows or staffing patterns. However, if we chose to follow WLN's policy of fully upgrading less-than-complete records found in the database before they can be used, that could affect the workload for the senior paraprofessionals and professionals in our establishments. (BCUC could adopt different policies from WLN if it wished to, although WLN would prefer that the systems remain compatible.) A network level review, such as that undertaken by WLN, would increase the workload on the professional staff, if it were implemented in the BCUC system. WLN's lack of provision for deriving related records from records already in the database will lead to increased input keying for the data entry staff. We would not expect productivity to increase with use of WLN; the on-line authority files would speed up authority checking, but there are a number of off-setting features which we discovered in our close examination of the system. These are detailed in the Results section of this report, and in our summary feature analysis below.

Retraining

WLN would require less retraining of staff than DOBIS, but either one would be less of a change than our previous transition from manual systems to UTLAS. The WLN displays are much more like UTLAS' than are the DOBIS displays, in that the full display shows the full bibliographic record with all its associated tags, codes, and indicators. WLN uses mnemonic tags rather than numeric, up to four indicators instead of two, and employs nesting of subfield codes, but is otherwise very similar to UTLAS. DOBIS displays no tags or indicators, and very few subfield codes. The bibliographic data are organized in a format that does not relate easily to a catalogue card, and it is impossible to see the full record all together on one screen. (We recommend that this display problem be solved before a DOBIS system is installed for BCUC). A brief display like CLL's would make adding of copies more efficient. The cataloguing approach on DOBIS is different from the traditional worksheet/catalogue card orientation; DOBIS deals with classes of entries, such as all names associated with a work, all titles, etc., rather than main entry, added entries, etc. The searching facilities on both systems are different from those on UTLAS. On-line authority work will be a new feature on both systems, and the quality control facilities are different also. WLN has a unique automated edit and review function. A full record display on DOBIS would minimize the quality control differences for that system. Documentation to assist planning and retraining is now available for WLN, and the National Library has made good progress in building up the documentation for its version of DOBIS.

Summary of major good and bad features

WLN

Good:- On-line authority access and excellent searching capabilities, including permuted subjects and Boolean operators, but excluding call numbers.

- Efficient input and edit functions.

- Diacritics are input as diacritics rather than equivalent characters

- Thorough documentation

- Highly developed quality control facilities: automated edits, special workfiles for review, and a network level review.

- "Waiting" file to catch incoming source records without re-searching

- Ability to search both system and local files simultaneously

- Authorization levels improve data security.

Bad: - The system cannot handle records for music, sound recordings, or maps

- WLN has not loaded CANMARC, BNB MARC, or UTLAS records, nor LC, CANMARC, or SHARAF authority records

- It is not possible to copy data already in the system to build up records; this applies to related records for other editions, access points in the authority files, and interim records created in advance of the full bibliographic record

- There is limited provision for local data, and that data is lost if a source file record replaces a record input by participants

- Holdings can be recorded only to the branch location level (but not with sublocations) i.e. whether a branch holds the title or not, with limited provision for serials holdings summaries. Specifications for detailed copy/volume holdings are coded and tested but are not yet implemented

- There are limited product options, and no diacritics on COM outputs

- Authorities system must be redeveloped (2-year project just begun.) WLN plans to load LC source authority records at the end of 1980.

- Network review process can delay products
- No call number access

CLL DORIS

Good:- Excellent command and prompt facilities, with provision for command chaining

- On-line authority access and excellent searching capabilities, including call number but excluding the Boolean operators available on WLN

- It is possible to copy related records to build on, capture access points without rekeying, and build on search arguments to create entries

- Original input is done by the cataloguer, without an intervening data entry typist

- Local files and detailed holdings can be accommodated

- Default tables are set locally

- There is provision for identifying new relationships between records

- Authorization levels improve data security

Bad: - The serials functions have not been developed

- The problem of source file updates has not been addressed

- No Boolean searching available

- There is no single screen display of the full bibliographic record

- Diacritic input is even more cumbersome than on UTLAS

- Local call numbers are stored in the system classification field, which is confusing for display on-line

- Limited product options

- Quality control is limited to a cursory check by the person doing the input work

- The system is more different from UTLAS than WLN is, and will require more retraining of staff

NL DOBIS

Good:- Excellent commands and prompts, with command chaining

- On-line authority access and excellent searching capabilities, including call numbers (both system and local) but excluding Boolean operators

- It is possible to copy related records to build on, capture access points, and build on search arguments to create entries.

- Original input by cataloguer without intervening data entry typist.

- Diacritics are defined on the keyboard of the terminals used by NL and can be input directly

- There is a full range of local files for bibliographic data and access points

- Default tables are set locally

- The system can handle all types of classification, both at the system and local level, including different numbers for two copies of the same title in the same location; it will accept duplicate call numbers and indicate them in the display.

- Encoding and verification level codes are available to identify degrees of incompleteness and quality levels in records

- There is provision for identifying new relationships between records

- Authorization levels improve data security

Bad: - Source file updating procedures are still under development.

- No Boolean searching available, although its development is in the programming queue.

- It is not possible at present to display the full bibliographic record all together for checking. Quality control involves cumbersome retracing of input procedures

- Products are still under development (expected mid-summer)

- It is more different from UTLAS than WLN is, and would require more retraining of staff

Changes required prior to implementation

(A) = Essential changes
(B) = Nearly essential changes

WLN

Detailed holdings:
- (A) Implement detailed holdings module.

Displays:
- (A) Display all encoding levels in brief records
- (A) Identify working file in all editing screens
- (A) Display source of subject headings in brief records and index displays.
- (B) Display institution dependent headings and notes on-line to all users (requires a table change in the system)

Database:
- (A) Develop the formats for music, sound recordings, and maps.
- (A) Load CANMARC and BNB MARC
- (A) Redevelop the authorities system to accommodate MARC authorities format (in progress)
- (A) Provide for batch loading of source authority records (LC MARC, CANMARC, SHARAF)
- (A) Develop loading of bibliographic source file updates without losing local data

Editing:
- (A) Reduce redundant keying (Provide for copying of records for modification; copying of information within a record; and selecting existing access points without rekeying. Reconsider the need for an interim record; if needed, allow its information to be retained and built on) WLN is working on this and on-line validation (see below), and plans to make them available as options
- (A) Develop on-line validation for authority control

Searching:
- (B) Provide an on-line shelf list.

Products:
- (A) Include local information in local COM (Ray Debuse says this is a high priority development for WLN, but it has not yet been scheduled)
- (A) Provide the full ALA print train for COM

Quality control:

- (A) Work out a method of handling the network review step in the BCLN context. Considerations would include: How labour intensive must it be? Should we distribute responsibility? If so, to which libraries? How would reviewers be trained, and how would we ensure consistency in interpretation of policies? How should policies be developed? Should there be reimbursement for libraries carrying out network review?

- (B) Improve the system of notification of changes from source record updates.

CLL DOBIS

Displays:

- (A) A cataloguer's screen, showing full information, including all coding for the bibliographic record and for access points linked to the bibliographic record, must be developed. The wordiness of DOBIS displays could make screen design a challenge.

- (A) Display verification and encoding levels in index displays.

- (A) Sort the short bibliographic entries listed under individual access points.

- (B) Display source of heading in subject heading index screen

- (B) Provide an on-line shelf list

Database:

- (A) Develop source record loading and updating facilities; decide on extent of human intervention in the matching and updating process.

- (A) Develop serials format

- (A) Develop authorities loading facilities

Quality control:

- (A) Develop verification levels and authorization levels for BCLN

- (A) Work out a system for notifying users of changes from source record updates.

Editing:

- (A) On-line validation of authorities

- (B) Improvement of input edits

Statistics:

- (B) Develop a statistical package.

Searching:

- (A) Provide combined local and system level search.

Products:

- (A) Provide authority notes and references in COM

- (A) Provide for printing a combination of local and system data

Documentation:

- (A) Preparation of complete documentation.

NL DOBIS

Displays:

- (A) A cataloguer's screen, showing full information, including all coding for the bibliographic record and for access points linked to the bibliographic record, must be developed. The wordiness of DOBIS displays could make screen design a challenge.

- (B) A short display screen suitable for adding copies would be a useful addition.

- (A) Display verification and encoding levels in index displays.

- (A) Sort the short bibliographic entries listed under individual access points.

- (B) Enhance call number index display to include bibliographic information

- (B) Reorganize the holdings display by location

Database:

- (A) Develop source record loading and updating facilities; decide on extent of human intervention in the matching and updating process.

- (A) Continue development of authorities loading facilities

Quality control:

- (A) Develop verification levels and authorization levels for BCLN

- (A) Work out a system for notifying users of changes from source record updates.

Editing:

- (B) Improvement of input edits

Statistics:

- (B) Develop a statistical package. (NL is currently using a resource accounting package)

Searching:

- (A) Provide combined local and system level search.

Products:

- (A) Implement products, including further development of the provision for combination of local and system data

CATALOGUING FEATURE ANALYSIS

	Total Available	UTLAS	WLN	CLL DOBIS	NL DOBIS
1. Authority control					
A. Authority format and data base	25	22	18	20	22
B. Validation of bibliographic input	50	50	25	40	40
C. Update of bibliographic records	50	50	35	35	40
D. Appearance in products	25	14	20	10	10
TOTAL:	150	136	98	105	112
2. Batch services and products					
A. Cards	25	25	20	10	0*
B. Labels	10	10	10	10	0
C. COM	35	30	25	20	10
D. Magnetic tape (MARC communication format)	10	8	7	0	5
E. Paper listings	20	20	20	20	20
TOTAL:	100	93	82	60	35
3. Searching and displays					
A. Access points available	45	25	40	41	41
B. Types of search available and search commands	30	15	27	24	24
C. Display formats	15	9	12	14	11
D. Online time required for display	10	5	10	8	8
TOTAL:	100	54	89	87	84
4. Cataloguing - System features					
A. Editing features	65	62	20	62	62
B. Prompts and error messages	10	4	9	10	10
C. Input/edit command structure	45	18	38	43	43
D. Record structure and display	25	25	25	20	18
E. Data input	15	7	12	10	12
F. Provision for working online	15	7	5	13	13
TOTAL:	175	123	109	158	158

21

* Catalogue cards were produced, on schedule, in early July, but this evaluation reflects the system as we saw it in June.

CATALOGUING FEATURE ANALYSIS

	Total Available	UTLAS	WLN	CLL DOBIS	NL DOBIS
5. Cataloguing - Data features					
A. Provision for local variation	35	35	15	30	30
B. Classification	15	10	10	12	15
C. Detailed holdings	100	75	0*	70	70
TOTAL:	150	120	25	112	115
6. Bibliographic record management and quality control					
A. Source files loaded	15	13	7	10	13
B. Source file updating provisions	15	8	12	6	6
C. MARC formats available	20	20	15	10	20
D. Mechanism to identify incomplete records	10	7	8	8	7
E. Features to assist quality control	10	2	10	5	5
F. Record size limitations	5	3	3	5	5
TOTAL:	75	53	55	44	56
7. Printed user instructions and documentation					
A. Documentation available	20	10	15	0	13
B. Ease of use	5	2	5	0	3
C. Updating	10	4	6	0	6
D. Training aids available	5	2	3	2	3
TOTAL:	40	18	29	2	25
GRAND TOTALS:	790	597	487	568	585

* The system now supports branch locations; full detailed holdings facilities are tested but not yet implemented.

CATALOGUING FEATURE ANALYSIS

With the programming changes that Ringgold Management Systems has included in the larger-scope study of the system, additional points could be awarded in the categories shown below:

	UTLAS	WLN	CLL DOBIS	NL DOBIS
1. Authority control				
A. Authority format and database		7	5	3
B. Validation of bibliographic input		25	10	
D. Appearance in products			4	4
2. Batch services and products				
A. Cards			15	25
C. COM			10	20
D. Magnetic tape		3	10	5
3. Searching and displays				
A. Access points available		1		
B. Types of search available and search commands			6	6
C. Display formats		3	1	4
4. Cataloguing - System features				
A. Editing features		40		
D. Record structure and display			5	7
E. Data input			2	
5. Cataloguing - Data features				
A. Provisions for local variation		5	5	5
C. Detailed holdings		70		
6. Bibliographic record management and quality control				
A. Source files loaded		6	3	
B. Source file updating provisions		3	9	9
E. Features to assist quality control			5	5
Total extra points:		163	90	93
Previously awarded:	597	487	568	585
Adjusted totals:	597	650	658	678

We expect that readers of this report will disagree with some or all of our categories, weighting, and the points awarded. It would be worthwhile for these readers to set up their own categories and weightings, and re-evaluate the systems on the basis of the information in the detailed results section of this report. Institutional perspectives differ, and if the results obtained by these re-evaluations is significantly different from the Study Team's own findings, this information needs to be brought to the attention of the BCUC Project Manager's Advisory Committee as soon as possible so that it can be taken into consideration when the final decision is made.

Detailed results: the answers to the questionnaire, with comments

The System

1. What types of material can be entered on the system according to full MARC coding standards?

WLN follows the specifications for LC MARC records, and, as a matter of policy, will not implement a MARC format until LC has officially authorized its use. The system will accommodate records for printed monographs, serials, and non-print materials such as projected media, realia, and kits. It will not accomodate music scores, sound recordings (musical or non-musical) or maps. Some WLN participants are entering microforms. Field 533 (Photoreproduction note) is present in the serials format but not in the monograph format; neither format includes the $h subfield of field 245, which would contain the microform GMD.

The system does not accommodate records in the CANMARC format. Specifically, we noticed the absence of the bibliographic equivalence fields (not used by BCUC anyway), fields 011 and 021 (LC card number and ISBN of related title), and notes field 503 (Bibliographic history note). The chronological coverage code, field 045, was absent in the monographs format only.

College Bibliocentre (CLL DOBIS) handles all media except serials. CLL does not process serials, and therefore has never developed the serials portion of DOBIS, although they felt it would be fairly easy to make the necessary changes to handle serials.

National Library DOBIS (NL DOBIS) handles monographs, serials, and all the monographic non-book media except maps, including music and music sound recordings. They have not yet developed the specifications for serial audio-visual material; the maps format is under development. As a matter of policy, NL keeps up with new and revised formats as they are issued.

2. Will the system accept records other than fully coded MARC records? Is there a code to indicate that a record is incomplete, and, if so, does it also indicate the degree of incompleteness?

At present, WLN includes records with varying levels of completeness, indicated by a code in the "encoding level" fixed field. These include:

blank = full bibliographic record
1 = transcription of LC data <u>without</u> book in hand
5 = partial record, lacking LC call number and copy statement, subject headings, DDC, area codes, and form of contents codes
8 = CIP
i = interim record, which <u>can</u> consist of as little as a short title and an RID (system control number) but may include name access points, edition, imprint, collation, series,

ISBN and notes.

u = University of Washington serial record, entered in a retrospective conversion project

Only full bibliographic records and CIP records (encoding levels = blank and 8) will produce cards, according to the present specifications. All records can be included in a printed bibliography. Interim records are not subject to authority control, although they are accessed in the standard searches for names, titles, etc.

Both CLL and NL DOBIS will accept incomplete records. CLL flags records to show four levels of completeness: In-process (fragmentary, still being built), Unedited (their RECON records), Source (LC, CANMARC, and BNB records which have not yet been used), and Edited (used and checked against the book.)

NL has two sets of codes, indicating encoding level and verification level respectively. Encoding level specifies how much data is in the record; verification level indicates the degree of content designation and the quality of the data. NL has extended the "verification level" concept to include the access points as well as the bibliographic record as a whole; each access point has its own verification level code. Mary Joan Dunn stressed that the standards, and the codes to designate them in the records, are set by the users of the system. NL is still developing the definitions and codes for its own use and that of a national network. If we used the system we would probably want to develop our own set, based on NL's.

3. Describe and evaluate the command and prompt structure, and the editing facilities provided by the system.

Both WLN and DOBIS make use of terminals with cursor control and editorial function keys to delete and insert data. Correction of keying errors is done by overstriking the error with the correct data, and making use of the function keys as required if the correction is shorter or longer than the error. The DOBIS terminal described in the IBM manual has an End of Field key which allows deletion of all data to the right of the cursor, up to the end of the field. Special features like this are not necessarily on all terminals.

Original input on WLN is prompted by means of a worksheet form called up on the terminal screen, on which the data entry operator "fills in the blanks". The cursor is tabbed from field to field as necessary. The operator normally works from a typed or handwritten paper worksheet completed by a cataloguer. (Standard worksheet forms for books, serials, and non-book material have been developed for the network participants.) The operator keys the worksheet from top to bottom, without consulting any files in the system, and then presses the "transmit" button to store the record in a work area for review.

WLN uses both structured command phrases and "menu selection" techniques to move from function to function and file to file.

With the exception of the commands to add, change, or delete summary holdings, the command phrases are brief (usually only a few keystrokes) and easily constructed.

e.g. a search command: f t arab # (= find everything with a title containing keywords starting with or consisting of "arab")

The holdings commands are longer because of the requirement to enter the whole call number exactly as it appears each time a holdings entry is accessed to delete or change it.

e.g. to delete a location's symbol from the summary display:
HDEL ∂,≠AB 123 C4 D5 1978a

If the record is for an audio-visual item, the physical description codes (UTLAS 007 field) may also be entered as part of the command.

Most input/edit commands (there are 30 altogether) are handled by menu selection; the possible commands for each function are displayed, the operator positions the cursor at the one desired, and presses the "transmit" key.

The bibliographic record control number for WLN is the LC card number; if none is available, a sequential number in the same format, prefixed by "WLN" is used instead. The control number is called an "RID" (Record Identification number) and it can be used as a search key. Individual records in a multi-record display can be identified by a "display number" corresponding to their position on the screen.

The users of the WLN system were satisfied with the prompts and commands, and did not feel that they were difficult to learn or use. Both PLU and King County commented favourably on the speed of data entry using the system.

DOBIS uses the "menu selection" technique for all functions: searching, editing, original input, recording holdings, and catalogue maintenance. Basic searching and cataloguing functions are defined, and within them the sequence of menu screens is predetermined. The user is led through the function step by step, with each screen either displaying the available choices for the next step or prompting the entry of bibliographic or holdings data. It is not necessary to know MARC coding conventions to follow the prompts; they are in "cataloguers' English" (or French, if desired); i.e. the user must know what the bibliographic data elements are, but they are identified by words rather than numbers or mnemonics. We found it easy to move around in the DOBIS system, using the menus, when we were allowed to play with the system at CLL. Responses to prompts are usually a single letter or number, except when actual data is being entered. DOBIS provides a "command chaining" feature that allows experienced users to enter the responses for several screens at a time once they know what the screen sequence for a given operation will be. Command chaining permits them to bypass a number of screens, moving directly to a screen where they will

consult a file or enter lengthy data. (Entry of short data elements can be included in the command chain.) Both CLL and NL reported that command-chaining comes quickly and easily to users (within hours or at the most a few days of their being shown the system). We had begun to pick up short sequences of commands in the hour or so we played with CLL's DOBIS. Both CLL and NL indicated that the use of command chains, and their construction, were matters of personal preference for the individual users of the system. Staff were not given pre-determined command chains and told to use them; they developed their own, and found it interesting and challenging to do so. NL allows terminal users to save useful command chains for as long as they want them, using re-defined terminal keys to store them and invoke them when needed. Each operator's stored chains are activated when he signs on, using his own operator code. CLL allowed command chains to be stored during a terminal session, but they were lost when the user signed off. CLL had tried storing them permanently as NL is doing now, but found that with the variety of material they process they were storing a lot of chains that were needed only occasionally. Also, their operators "outgrew" the chains as they became more sophisticated, and entered better or longer chains without deleting the old ones.

Command chaining is an extremely flexible device, allowing each user to adapt the system to his own level of sophistication. The chains are quick to set up and can be changed at will to accommodate variations in the incoming work. It is certainly not necessary to batch work according to established command chains, although if a cataloguer noticed a set of titles with common characteristics (such as an author or series) coming through together he would probably choose to process them together and set up special command chains to speed them through. We organize work that way even in a manual system.

4. Are there any special system features that would assist cataloguers?

WLN

- If a library is able to accept classification numbers exactly as they are given in the source records, they can order products using it without actually keying the number themselves. Derivative cataloguing using this procedure consists of verifying that the cataloguing matches the book and then pressing the "transmit" button. PLU uses this feature. King County does not use it, because they do not want to accept the Dewey number as given in the record. Even so, King County averages two minutes/title for derivative cataloguing, and that includes manually noting the main entry and call number for subsequent input into their local system. It should be noted, however, that the call number must be rekeyed in full, using the HNEW command, to record a library's holding symbol in the database. The Director of the PLU Library was very enthusiastic about the way WLN speeded up their processing, but he was most impressed with the

acquisitions and accounting modules, which had replaced a time-consuming manual procedure at that institution.

- There is a "Waiting" file, in which libraries can enter requests for products to be produced automatically whenever a full bibliographic record becomes available. The products will have the call number that is in the record unless the library overrides it with their own call number when the request is placed in the file. This feature seemed like a good idea when we read about it in the documentation, but we found that neither PLU nor King County was using it. King County doesn't because it often truncates the Dewey number in the record. PLU tried the feature, but had problems with it; for example, they received card sets with no call number from time to time, because the bibliographic record lacked an LC call number. They stopped using it because they wanted to know what they would be getting on their products. Ray DeBuse at the WLN Office admitted that few participants were using it. We suggested it might be more popular if, instead of receiving finished products, the library received a notification that a full record was now available. He said that change could very easily be made, but that they would have to charge extra for the notification service. (There is no charge for using the "Waiting file" service, as it now operates, other than the product charge.)

- There are numerous "Working" files available to users, into which they can place records for review by their own staff before the records are sent to the Network Office for final approval. An institution can set up as many working files as it needs, so that different types of material, or the work of different groups, can easily be reviewed by different people. There are separate work files for new input and for changes to existing records. There are separate work files for monographs, serials, and A-V. A similar set of working files is used by the reviewers at the Network Office. Their set includes a group of work files used to review incoming MARC source records which matched records already in the database. Rosemary Schold pointed out that the multiple work files feature would make it easy to decentralize the review process.

- There is an automated edit function that can be invoked when reviewing records or upon input. It will check for certain errors, such as unauthorized indicators or subfield codes, an incorrect number of subfield codes, suspicious filing indicators, etc. This saves a great deal of tedious checking, allowing the reviewer to concentrate on data and cataloguing errors. Another editing function, the "compare" feature, is used by the network staff to review changed records and examine matches between incoming source records and records already on the file. The system displays the record with the variant fields of the old and new versions of the record displayed adjacent

to one another and highlighted.

- Authorization levels tied to the user's password protect data from manipulation by untrained or unauthorized staff.

- The State Library provides an NUC search service for small libraries that do not have access to NUC themselves, but this is a network policy matter rather than a system feature. The system provides the facility to post a request for an NUC search. If a matching record is found in NUC, State Library staff enter it on the system; if the match is not exact, they send a copy of the record to the requesting library to serve as a basis for their original input.

- There is a message field in each record that can be used to send information or queries to the Network Review staff. There is also a toll-free number that participants can use to contact the Network Office.

CLL and NL DOBIS

- Command chains (see discussion of commands and prompts, above)

- Online access to call numbers, although this could be improved by showing a brief bibliographic record associated with each one. NL plans to provide this eventually.

- There is a command known as "q" which allows the cataloguer to copy the record for a related title (other edition or medium) into the work area, edit it to match the book in hand, and then file it as a new record. We know, from our use of UTLAS, that this is an extremely desirable and time-saving feature.

- "In-process" status at CLL, and the verification and encoding levels at NL, allow a record to be built up over a period of time, by several staff members if necessary, before it is designated "finished". For example, a searcher (junior staff member) might find the record for a related title, note its DOBIS number, and pass the book on to a derivative cataloguer. The cataloguer could "q" the record, check the new record against the book, add the access point linkages, and make any necessary changes. If the derivative cataloguer encountered a problem in the record, he would file it with an "Incomplete" status and pass it on to a senior derivative cataloguer to resolve the problem. If the record still required work, such as a different classification number or a complicated relationship note, the senior derivative cataloguer would leave the status incomplete and pass the book on to a professional, who would finish the job and change the status to "finished". This procedure is used extensively by CLL, which has a preprinted form on which the junior

staff members can indicate access points they have checked, etc., before they pass the book and form on to a more senior person for completion.

- If the call number for a title is already in the file, e.g. for an added copy, it is not necessary to key it again when another copy is added. It can be copied in both versions of DOBIS.

- Both versions of DOBIS save search arguments, so it is not necessary to re-key that portion of the access point that was used to search the access point file if it is a new term to be added to the file. The search term can simply be completed and filed.

- Menu prompts usually show only the choices possible at that point in the procedure, and only the choices for the functions that a particular user is allowed to perform, according to his authorization level. Thus the user is not confused by excess prompts on the screen.

- A variety of authorization levels is available in both versions of DOBIS as a security measure. They are tied to each operator's sign-on code. It could be tricky setting these levels up initially, since a user would have to have a high enough authorization level to do all the work normally required by his job description, but in the long run the authorization levels protect the data from damage by people not trained in certain functions.

- NL's terminals have a "redefine" key that an operator can use to redefine the value of any keyboard character. NL uses this function for storing command chains, diacritics, and special characters. CLL has 12 program function keys which can be used for storing command chains.

- It is possible to set defaults for many fields in DOBIS, e.g. "eng" for the language code in an institution which buys mainly English language material. The defaults can be over-ridden as required during input. The defaults are set up by individual institutions, and are easily changed by altering tables in the programs.

- It is possible to define new relationships between records as required.

5. What statistics can the cataloguing system provide?

WLN provides on-line statistics as to the number of records awaiting processing in all of a library's work files at any time. Each participant receives a printed monthly summary of system activity for the month. This shows, for each library, total holdings, holdings added, records input, contribution factor (records originally input as a percentage of total original plus derivative records processed), requests for products, acquisitions orders created, and inquiry transactions. Individual

libraries can receive on request a printed daily log for each terminal showing all transactions processed.

DOBIS does not seem to have a statistics package. NL is using a resource accounting package, supplemented by manually kept statistics, to give them the information they need to bill their clients (connect time, processing functions used, etc.), but it is not satisfactory yet; they are still relying on the manually kept statistics. CLL bills its clients for products and a processing fee, but we did not see the actual statistics collected.

6. Is there a maximum record size?

On WLN the maximum is 3000 characters. This is a limitation of the ADABAS Data Management System, and they see no way around it. It is already a spanned record. If Software AG does not extend this limit, WLN will have to do so through application programming.

Because of DOBIS' file architecture there is no specified limit for the total number of characters in a bibliographic record. Instead, there are limits on the lengths and number of occurrences of certain fields. The original DOBIS has a 255 character limit on the the title field. CLL got around this by defining a "Title overflow" field to hold the rest of a long title, and this is still working satisfactorily for them. CLL still has a 1200 character limit on the notes area, which includes most of the description as well as the actual bibliographic notes. NL solved the 255 character restriction by making a fundamental change to the DOBIS structure: using 2 bytes instead of one to define the length of a field. There are still limitations, but they are not as restrictive as in the original version. (See Appendix C)

7. What error messages are provided? Do they explain clearly what the problem is?

The documentation we examined listed 188 WLN error messages. Each system function has its own set of error messages, and these are all listed in the various manuals, with directions as to what corrective action to take. PLU remarked on how helpful the error messages are as training aids. With the exception of the operating system error messages intended for the programmers, the messages are clear and self-explanatory. The programmers' error messages that may appear during online use by a participant are also listed in the manuals, with instructions to call the Network Office.

The IBM documentation for DOBIS (librarian's guide) lists 38 error messages, with the corrective action to take. The messages are short, and it is generally clear what the problem is, once the user is familiar with the system. NL is adding input edits which check for permissible values in certain fields, and these produce additional error messages. There are 55 now.

8. Which source files are now loaded?

WLN has loaded LC MARC, the CONSER authenticated records, GPO records, and Xerox Bibliographic records formatted by Blackwell North America. They are considering loading the unauthenticated CONSER records.

CLL will be loading LC MARC, CANMARC, and BNB in the next two weeks. These files are on-line now, but in a separate system, and accessible only by control numbers.

NL has loaded the CANMARC records distributed on the MRDS system but not the other NL machine-readable records for music and sound-recordings. Records with centred contents notes have been loaded, but not the contents notes themselves yet. They have nearly finished loading LC MARC, and expect to complete that within the next month. They have also loaded the CONSER file.

9. How are source file updates processed?

At WLN source records are matched against the existing database by LC card number and a title compression code. They are considering using ISBN also, but have not done so yet. If there is no match, the new record is loaded without further examination. If the new record matches one on the file, copies of both records are placed in a work file for review by the Network Office review staff. Matched records are checked to be sure they really are the same record before the new one is allowed to replace or delete the old. Differences between the records are identified by the system by checking the two records field by field, and the differences are highlighted in a comparative display for the reviewer. If the revision is a "major change", e.g. a change in the main entry or title, opening or closing the collation, etc., the reviewer prints out the comparison screen along with a list of the libraries that hold the title. These printouts are distributed to all participants weekly, so that they can adjust their local files if necessary. Participants are not notified of authority entry changes at present, although they could be. There is a problem when source records replace records input by the participants, in that local data is lost. It is high priority for WLN to fix this.

CLL has not dealt with this problem yet. They think they will keep all the records and advise their cataloguers to select the most recent version when more than one is available. NL has not yet loaded an update either. They are working on a matching algorithm that examines the standard numbers, author, title, date (from fixed field data) and country of publication code. They are also developing a hierarchy of sources to determine which record is retained, and to save local data in a system record that is to be replaced. They expect to have this function implemented by the end of summer 1980.

10. How are fields, subfields, and indicators identified?

In WLN fields have mnemonic tags rather than numeric ones when

they are displayed. e.g. MEP is the equivalent of 100 (it stands for Main Entry Personal name). WLN has expanded the number of indicators available, using up to 4 in some fields. The fourth indicator can be used to show non-filing characters at the beginning of a $t subfield. The field tag and indicators are separated from the subfield codes by a double dagger. The subfield codes are nested at the beginning of the data, and each subfield's data is introduced by a double dagger.
e.g. MEPS 0≠ad≠Smith, J.,≠1945-

The "S" represents indicator 1, stating mnemonically that this is a single surname. The blank following it indicates that the author is not the subject of the work. The "0" shows that no characters are to be ignored in filing at the beginning of the field. The "a" and "d" are the subfield codes for the two following pieces of data: the name and the birthdate. The tags and subfield codes do not show in the searching displays. In the interim records, only the names are subfielded.

In DOBIS most tags and indicators are built into the prompting routines; the user doesn't need to know tags or indicator values but must know what each bibliographic element is called. When subfield codes are not supplied by the prompting system, as in the collation, or when data is entered as part of a command chain, they are preceded by a $.

On-line searching

1. What access keys can be used, and how are they structured?

WLN provides access to the following files: bibliographic, authorities, holdings, working, waiting, previous search manipulation, and the off-line print file. Access to the holdings file is generally through the bibliographic file, but it can also be approached directly using the RID, ISBN, or ISSN. Interim records can be accessed by RID, title keywords, author subfields, and ISBN or ISSN. For the other files, the system provides access by:

- RID (LC card number)
- ISBN
- ISSN
- Title keywords
- Author:
  - Personal name
  - Corporate/Conference name
  - Corporate/Conference name keyword
  - Uniform title
- Subject:
  - Personal name
  - Corporate/Conference name
  - Corporate/Conference name keyword
  - Uniform title
  - Geographical keyword
  - Topical keyword
- Series:
  - Personal name plus title
  - Corporate/Conference name plus title
  - Corporate/Conference name keyword
  - Title
- Previous search argument

All punctuation except hyphens can be ignored in searching.
Searches can be restricted to the first subfield only, or to subsequent subfields only, instead of the whole field.
Options are available to change the standard display from an author arrangement to title, and to select which "collection" is to be searched. There are only 2 collections at present: 0 is the source file collection, and 1 is the collection containing participants' records. If the option is not exercised, both collections are searched. Design work and programming for a third collection, to be designated "Collection 2", is underway; it will contain those of the participants' RECON records which do not meet the standards for Collection 1, and possibly records from the RLIN database eventually. The RECON records will be accessible by the standard search keys, but will not be under authority control.

The general format for a search is:

command key id search argument $options

e.g.

find title network $a,f or, as it would probably be entered:

f t network

Truncation is available on all search keys except the RID, and multiple truncations are allowed in a search argument. Truncation is shown by attaching a # to the truncated search term. Boolean operators are available for all search keys, and can be indicated by using a single character or by spelling out the operator:

e.g. "NOT" can be shown as "/" or ".n." or ".not."

There is a short stopword list, mainly articles and prepositions, primarily in English.

Both DOBIS versions provide access to names, titles, subjects, classification numbers (system level), ISBN, ISSN, LC card number, other numbers, and DOBIS document number (the system control number). CLL's version gives on-line access to publishers also. Both versions permute corporate and conference names and titles. Permutation of compound surnames is available in the basic DOBIS package (no programming required), but NL has not implemented it. Permutation of subjects is available also, but neither CLL nor NL has implemented it because of the amount of file space it would take up relative to its usefulness. DOBIS provides the same access points for local data, including local call numbers. CLL uses local files only for piece-level holdings on Ryerson's LIBIS circulation system, so is not making extensive use of them. Truncation is available on all keys except DOBIS number. Boolean operators are not available in either version; CLL feels they don't need them, but NL has assigned the development of Boolean capabilities a place in their programming work queue. There are stopword lists for each type of permuted entry, and there is provision for using different stopword lists when the entries are in different languages.

To perform a search on DOBIS, the operator selects the access point file required from the searching menu screen, and enters its display number and the search argument. e.g. to search a name, enter "1", press RETURN, enter "Johnstone, J", and press RETURN. Or command-chain it, and enter "/1/Johnstone, J" and press RETURN. The name that most closely resembles the search argument will appear on line 2 of a 14-line display.

2. Is it browsable? How convenient is the browsing technique?

Browsing within the file of "hits" matching the search argument is possible and very easy on WLN. One can ask to see any of the records in the display, designating which numbers are required and scanning them a screenful at a time. e.g.

select 1-20

select 1,3,5
select 1-20 .by. 5 (i.e. every 5th record in the range)

The WLN authority file can be browsed forward by type of heading. For subject headings, the browse can be further restricted by source of the heading.

Both versions of DOBIS provide easy browsable access, using "b" or "f" to move backward or forward to a new 14-line display screen. It is possible to chain-command these also, instead of entering a new search term, e.g. /f/f/f/f to move ahead 4 screens. One problem that NL pointed out to us occurs when the search moves from the access point file to examining the brief records attached to a particular access point. These brief records display in random order. For an author with only a few titles this would be a minor inconvenience; browsing the display for Shakespeare in this way could be a major undertaking. The programming to fix this display is well down in the NL queue.

3. Will it display "related" records, e.g. other editions?

Both WLN and DOBIS will display all records that match the search key, and one can browse within them to locate the required record.

4. What are the display formats? Is there a partial record display to ensure that you have a "hit" before you request the full display?

WLN has 5 display formats: Summary, Minimum, Index bibliographic, Full bibliographic, and Complete. The Complete display is available in the inquiry and editing functions; it includes not only all the data in the record but also all the field tags, subfields, and indicators. The Summary display is the briefest, giving only the search term used and the number of items retrieved. It appears when there are too many hits to display on the screen in the Minimum format. The Minimum format contains the main entry, short title, edition, date, paging, and RID. The Index bibliographic display shows main entry, title, edition, imprint, collation, and RID. The Full Bibliographic display gives all the bibliographic data in card format. The type of display depends on the number of records that are to appear on the screen; e.g. if only one record was retrieved on the search, or you had narrowed your search by selecting one record from one of the shorter format displays, it would appear in the Index Bibliographic display. The Full Bibliographic display can then be requested by entering "≠f", and the Complete display by entering "≠c". If more than one record was to be displayed, the system would select the fullest format that would permit them to be displayed all at once, if that is possible; if not possible, it will display in Minimum format and you browse back and forth to see them all. For some files, only certain formats are available; e.g. displays from the Work Files are either Summary or Complete format.

DOBIS has the 14-entry display screen described above, which also shows the number of bibliographic records attached to each entry.

For the title display, CLL shows the code indicating the record's level of completeness to the left of the entry, making it possible for a searcher to route items to different levels of staff on the basis of this initial display. Their short title display also shows the GMD, a big help when searching common titles. The display gives only 49 characters of the entry, and this can be awkward for long corporate bodies.

Both versions also have a brief display and a "full" display. CLL's brief display includes: title, edition, imprint, and collation. This is the data checked by staff adding copies, and they are encouraged to make the decision to add on the basis of the brief display alone, rather than looking at the "full" display which appears on the same screen immediately below. NL's brief display consists of name, title, date, form of reproduction and number of documents attached.

The "full" display in both versions is not the full record we are used to on UTLAS. The DOBIS display lacks all tags, indicators, subfield codes, and fixed fields. It is also arranged according to types of data, such as names, titles, etc., associated with the record rather than in a card-like or at least card-order format. NL realizes that this is not a satisfactory display for cataloguers, although it may be fine for other users, and they have placed the development of a "cataloguer's" display screen in their programming queue. NL's target date for display enhancements is mid-1981.

5. Is the response time faster or slower with some keys than others?

Neither PLU nor King County felt that the response time was affected by the type of search key, provided the searcher didn't ask for a search that would produce hundreds or thousands of hits. King County's cataloguing searchers generally use LC card number (alias the WLN RID) or title for searching; they rarely use the other keys or Boolean operators, although the library's reference searchers use the other search keys and strategies frequently. PLU remarked that they do use Boolean operators to attempt to narrow the search quickly, thus saving money. (Apparently the charging system is based on the number of inquiries sent, not the search keys used).

CLL's response time was practically instantaneous, regardless of key. NL's response time was relatively slow on the day we observed the system (several seconds). It did not seem to vary with the search key used, but staff there felt that the DOBIS number was slightly faster.

6. Does response time vary depending on the time of day?

PLU remarked that it is a bit slower between 9:30 and 10:30, around noon, and between 2:30 and 3:30. It is not slow enough to be inconvenient. (They regard a response time of 5 to 10 seconds as very slow.) King County noted that it is generally a bit slower between 10:00 and 3:00.

CLL has an average of 35 terminals on-line at any given time, and they have noticed no variations in response time during the day. NL observed that traffic on the system is heaviest between 10 and 11:30 and 1 to 2:30 p.m., and that the response time degrades slightly then.

7. Does the normal searching display(s) indicate whether a record is complete or incomplete?

Only interim records and University of Washington serials records are identified in the Minimum display on WLN (by an "i" or a "u" in the margin) Ray DeBuse felt it probably would not be difficult to make the display show the other incomplete record codes.

CLL's initial title display provides this information in coded form; it is displayed as a word, e.g. "edited", in the other displays. NL's version provides this information as part of the "full" display.

8. Is there provision for using the same bibliographic record as a basis for an order in the acquisitions system and for a catalogue record?

Yes, for WLN. If a bibliographic record is found when an order is searched, it is used; if one is not found, an interim record is usually created. It is possible to create an acquisition record that does not have a record in the bibliographic file, but it is only accessible by purchase order number, not the standard search keys.

Neither CLL nor NL is using the LIBIS acquisitions package, but if they were, the same bibliographic record would be used for both acquisitions and cataloguing.

9. How easy is it to have a full record display printed out?

In WLN it is very easy. The printers attached to the WLN terminals print what is on the screen and do not have to be turned on in advance. The searcher can select a record, using the normal search keys, and it will automatically display in the full format. This can then be copied by the printer.

It is easy enough to print the full record display screen (or any other screen) on DOBIS, using a printer attached to the terminal. The problem is that the "full" display is not complete from a cataloguing point of view. To collect all the information related to a record on DOBIS the cataloguer would have to print many screens: the "full" display, dates and defaults, fixed fields, detail screens for each access point, and local holdings. It would not be practical to do this. If review of the complete record is required (we feel it is) a "cataloguer's" display screen will have to be developed to pull all this information together. According to Mary Jean Dunn this would not be a major change to the system, and could be accomplished fairly easily once a satisfactory display layout had been designed.

10. Is it possible to search on local keys and system keys interchangeably, or is it necessary to move to another type of routine to do it?

On WLN the standard searches access both the system and a user's own local information (not other users' local information). Interim records do not have authority file entries, but they can be accessed using the bibliographic file search keys.

On DOBIS it is necessary to move into the local access point files to examine local data. Local and system access points are not interfiled, and Mary Joan said it would be a major change to the DOBIS design to merge these files. NL is encouraging its clients to use the local files as little as possible. CLL does not use local access point files.

11. What display is given for a call number search? Does it include bibliographic information?

WLN does not yet provide access by call number. Development of this facility is in the programming queue, but it is not a high priority.

DOBIS provides call number access, but displays only the call number. It has been suggested to NL that brief bibliographic data be added to this display, and this proposal is in the programming queue. CLL provides access to system call numbers only; their clients' call numbers are entered in the system file if they are not already there. NL provides access to both system call numbers (those in MARC fields 050, 055, and 060) and local call numbers.

CLL shows all call numbers in its full bibliographic display; if more than one LC or Dewey number is given, you can't tell from that display which one is used by a particular location. NL displays the local call number at the top of the full bibliographic record, and also in the holdings screens.

Cataloguing: Institutional Observations

1. Record work flows for the various cataloguing operations.

PLU uses the WLN Acquisitions System and obtains catalogue cards, spine labels, and book card labels from WLN. King County operates an in-house IBM-card-based automated system for its acquisitions, spine labels, and book cards. Both institutions record copy and volume holdings in local systems (manually for PLU, automated for King County) because WLN cannot yet accommodate detailed holdings information. King County keeps the records of its branch holdings on its in-house system. The holdings records on WLN for both institutions consist of their call number and library symbol only. Thus their routines to add and withdraw copies and volumes are not applicable to our own situation. We discussed their searching and cataloguing procedures in our interviews.

PLU searches order requests for pre-1979 items in its card catalogue first and identifies added copies and volumes. They then search the database and establish the orders in the Acquisition System using interim records when a full record is not already available. When an ordered item arrives, they clear the order at the terminal. Added copies and volumes are added manually. If a full catalogue record is available that matches the book exactly, they request products and post their call number and library symbol. If a full record is available, but it is not an exact match, they clear the order and print out the record so that one of the senior people can use it as the basis for a new record. (The new record must be keyed from scratch, however; it is not possible to copy the record and alter it to create a new one on WLN.) If there is still only an interim record available when the item arrives, they will clear the order and set the item aside for a while in the hope that someone else in the network will catalogue it. For original input, either from scratch or from a printed record, the cataloguer will verify all the access points on line before giving the worksheet to the data entry clerk for keying. It is necessary to key all the access points in the record, whether they are in the Authority File or not. The cataloguer checks the headings on-line, copies them onto the worksheet, and then the data entry clerk keys them in along with the rest of the data for the record. (PLU finds the WLN worksheet very convenient for original input.) The senior staff review each others' work on-line, using the WLN editing facility, and then transmit the records for network review. About 5% are returned for correction of minor errors.

King County uses WLN for pre-order verification, even though they do not use the Acquisition System. They establish whether an order is for an added copy, and designate it as such at the time of ordering. When it arrives, it is treated as an added copy, to be processed on the local system only, until it proves to be otherwise. New titles are given first to the derivative cataloguer, who processes them if a matching full record is found. If a related, but not exactly matching record is found, the derivative cataloguer notes the RID of that record and passes the book to an original cataloguer. The original cataloguer will

search again by title before preparing the original record for input. King County does not print out copies of related records as PLU does; they examine the record on-line. As at PLU, the amount of original input is relatively small; 82% of their material is added copies. The remaining 18% (12,116 titles in 1979) are new titles, and only 20% of them are original input, amounting to about 2500 titles/year. King County has a policy that nothing remains in cataloguing for more than 4 months, so they do catalogue some things in advance of LC. They require 2 WLN terminals to process the 12,000 new titles per year.

CLL's work is about 60% added copies, 25-30% new titles for which copy exists, and 10-15% original cataloguing. Of the new titles (40% of the total), about 60% have catalogue copy available in machine-readable form (source files) and the rest have printed copy. Cards, spine labels, book cards, etc., are printed in-house at CLL in a more or less continuous operation; these products are available within about 1/2 hour of the book being added to the system.

All incoming material is searched against the DOBIS database by title. Added copies are identified at this stage and sent to "fast-flow" cataloguers to have their location code added and products requested. Added volumes go to library technicians (verifiers) to be added. Titles not found are searched in the source file database (separate system) by LC card number or ISBN. If found, a copy of the source record is transferred to the DOBIS system in an overnight batch process. (This procedure will disappear when the source files are loaded on DOBIS in two weeks time. The source files will then be available to the searchers at the same time as the DOBIS database.) The item is then sent to the verifiers. Titles not found are set aside for a month or two and then re-searched. If not found then, they are searched in NUC, Canadiana, MARCfiche, and the old card catalogue. Exact or related copy found is photocopied and sent to the verifiers with the book. The verifiers will complete the entry of titles with exactly matching copy; for related titles they verify all access points on-line, recording their search results on a pre-printed form, and then pass book, form, and copy to a senior verifier or original cataloguer. If no copy at all can be found, the book goes to the original cataloguers.

Neither verifiers nor original cataloguers add holdings information; they send the book back to the "fast-flow" people to have this work done. Products come in batches, sorted by terminal operator's code, so keeping all the product ordering in one group facilitates matching of products to books.

The fast-flow people can process 300 items in a 6-hour day if they do nothing else. The verifiers doing derivative cataloguing can do about 30 books a day. The original cataloguers process an average of 8 titles per day each, cataloguing full time. When CLL switched from UTLAS to DOBIS, added copies productivity increased; derivative and original cataloguing output remained about the same. The UTLAS data entry staff were eliminated, as cataloguers work on-line with DOBIS. CLL has a terminal for each

2 original cataloguers, and 1 for each full-time-equivalent searcher and derivative cataloguer, ranged around the room. They found that scheduling people on the terminal for specific times did not work.

NL Cataloguing Branch has begun using DOBIS for some derived cataloguing and is beginning to use it for some quality control work. The system is being used for entering records and holdings information into the union catalogues of books and serials. CISTI is using it for serials. While it was interesting to examine the system as it has been implemented there, the union catalogue workflows we examined do not correspond to our cataloguing workflows.

2. Describe the work done by the various levels of staff at the institutions.

PLU has no professional librarian in technical services, although the Head of Technical Services is within 9 units of completing her professional degree and is very knowledgeable. She has 2 senior assistants and 2 junior ones, and a number of student assistants. The students do on-line searching, derivative cataloguing, data entry, and RECON input (which goes into a separate file to await processing against the database). They don't place orders or edit or do original cataloguing, but they do most of the other duties. The job assignments for the full-time staff are flexible; they all do most of the duties, but original input and review would be done by the more senior staff members. As their hit rate is between 85 and 95% on most of their intake, and around 50% on serials, there is not a great deal of original input to be done.

King County is a slightly larger operation, with 5 1/2 staff members plus the Head Cataloguer. Only the Head is a professional, but the two senior clerks do all types of work, including original cataloguing and revisions. There are two intermediate clerks; one does derivative cataloguing and the other does data entry. The data entry clerk is able to do description and tag a record at sight, so King County does not use the WLN worksheet for most original input. The senior people provide her with the classification, subject headings, and other access points, and she keys from that and the book itself. It takes her about 10 minutes/record to do this work. A full-time and a half-time clerk-typist add copies, type the local shelf list card which is used to record copies, and do other typing required.

At CLL, 8 professionals do original cataloguing, which includes inputting their own records at the terminal. 4 library technician II's (senior paraprofessionals) do training and problem-solving. They each also have a special assignment: French cataloguing, A-V, open entries, and upgrading of old records. 5 library technician I's (junior paraprofessionals) do 90% of the derivative cataloguing (10% is done by the II's), add volumes,

and do some of the catalogue maintenance functions. 4 clerks search, add copies, and do deletions and transfers.

3. Note any characteristics of the procedures that might differ from those used by our own participants.

For WLN, the main difference is in the recording of the holdings information, as noted above. CLL, like WLN, does not normally record holdings below the institutional level. One of their clients, Ryerson, has implemented the LIBIS circulation system and maintains piece-level records for that. Local files, including detailed holdings, are part of the basic DOBIS package, and may be implemented or not as the user wishes. If any of its other clients have more than one copy of a title, CLL will simply record its institution code an appropriate number of times. NL DOBIS can accommodate holdings at the copy level, and summaries for multi-volume sets. The Union Catalogue of Books Division records institution symbols only; the Periodicals Section records holdings summaries for each location.

There is a procedural difference in the way original input is entered, in that WLN requires that an "interim" record be created even though the full record is going to be input immediately afterward. This is not a system requirement, according to Ray DeBuse, but the Network felt it was necessary to prevent two institutions from originally cataloguing an item at the same time; the interim record is used as a place-holder, to declare one's intention to catalogue the item. If a new LC MARC tape is loaded, a source record may match on an interim record before the full record is input. It also provides some indication that the record is in the system while the full record is undergoing the network review process and is unavailable through the normal access keys. (It is unaccessible from the time it is put into the network review file until it is ready to be loaded into the database after review.) One unfortunate feature of the "interim record" is that it cannot itself be upgraded to a full record. Its data must be re-entered as part of the full bibliographic record, and upgraded in the process. The two records are linked together by the Network Review staff before the full bibliographic record is released into the database. Ray stated that the decision not to allow copying of the interim record data into the full record's input workscreen was made by the system designers, as a safeguard against errors in the finished record. They have talked about providing the facility as an option, but it is not high priority; they feel the existing procedure is not inefficient.

Quality standards are very high in WLN; while partial records are tolerated on the system they are not allowed to produce products. To use them, participants must upgrade them. The network level review is a feature not employed by BCUC.

Perhaps the greatest procedural departure from our present routines is that neither DOBIS installation uses an input worksheet. The cataloguers may make rough notes, such as call number and subject headings for original cataloguing, but they

create the finished record on-line. DOBIS provides the "worksheet" in the form of input screens, and the authority checking is all done on-line using the access point files. Headings found are captured for the record without re-keying. This saves the cataloguer hand-writing or typing a worksheet that must then be keyed by an input typist. Cataloguers working on-line need to know how to type, and CLL encouraged its non-typists to take a typing course when DOBIS was implemented.

CLL has eliminated the final quality control check of the finished records, limiting this function to an on-line check by the person inputting the data. NL's Union Catalogue of Books staff check the record by retracing many of the input operations on-line, which takes about 3/4 of the time it took to input the record in the first place.

4. Note how the book processing information is provided.

PLU obtains its processing kit from the System, and holds the book to await its arrival along with the cards. Washington State Library also does this, noting the call number on a scrap of paper at the terminal when the products are requested. King County notes the call number and main entry on an IBM process card that travels with the book through processing, and uses that information to produce the processing materials from their local system. The IBM process card is prepared at the time the local system places the order.

CLL orders its products when the book is added to the system. The books awaiting products are kept in input order on the operator's truck, to be matched to the products by another staff member. The products are sorted first by operator number and then in input order, so if the books are kept in order on the truck it is relatively easy to match them up. The cards are matched first, using the operator number printed on each card to find the appropriate truck. Then the spine labels and book cards are matched, and the book is marked.

NL is not using DOBIS for book processing at present.

5. Note what types of work are done off-line.

PLU still checks its card catalogue first for pre-1979 imprints to be ordered, because its RECON records have not yet been run against the database. The preparation of the input worksheet is done off-line, except for the checking of the on-line authority files. King County limits its off-line work to classification, subject headings, and the noting down of headings found in the authority file, since their data entry clerk does the description and tagging online. Both PLU and King County consult NUC off-line if copy is not found in the database.

CLL does classification and some subject heading work off-line, searches NUC and other printed bibliographies, and establishes names not already in the database.

6. Are there any features of the system the participants feel are cumbersome, or any that they feel have improved productivity or the quality of the records?

PLU remarked that the Authority File still lacked a lot of cross-references, especially for names. They ask for references to be added whenever they notice one missing, using the message facility. Entering other editions from scratch, when a related record is in the database, is a nuisance. They also commented that it was cumbersome clearing receipts on the Acquisitions System, since each order number had to be entered individually to clear it (no clearing of a range at a time is possible). King County chafed at having to follow LC even when they knew LC was wrong, and they wished that the two-week turnaround time for the network review could be improved. They felt that there were delays in loading the MARC tapes, and because of their policy of keeping cataloguing current (processed within four months) this makes extra work for them.

Both WLN participants had to think about it before they could come up with cumbersome features. Both were quickly able to produce a number of features they particularly liked about the system. PLU felt that they had saved money using the system, despite the $1.60 fee for attaching holdings (i.e. their NUC symbol) to a record. They commented on the ease of searching the on-line Authority File, and how simple it was to move from file to file when searching generally. They appreciated the Network staff's updating of LC subject headings as supplements are issued. When a heading is revised, this change is reflected in all records that use the heading. PLU liked being able to take the call numbers from the records for products without rekeying them. King County also noted that the on-line authority records save cataloguing time. They were very pleased with having the holdings symbols for the libraries in the database so quickly (holdings updates are done by batch processing three times a week) because this facilitates interlibrary loan. The King County reference staff uses the system's inquiry capabilities extensively, and have two terminals of their own to handle this work.

Surprisingly, none of the users objected to having to write down and completely re-key headings already in the Authority File when they wanted to use them in a record. (Perhaps the memory of the old days, when authority checking involved use of card files, as well as writing down headings completely for data entry, is still too fresh in their minds for them to be thinking of improvements to the on-line system!) We asked Ray DeBuse if it would be possible to change WLN so that a heading in the file could be used in a record without re-keying it. He said that the system had been designed intentionally to avoid that, but that he had recommended that this be changed. The designers had felt it was inefficient to have cataloguers working at terminals, as they were generally not as fast or accurate at keying as data entry operators. This feature is included in the redevelopment of the WLN authority system (now underway), to be implemented as an option.

When CLL cataloguers note errors in access points they can only correct them if they have a high enough authorization level to perform the necessary catalogue maintenance routines. Otherwise, they must write the error down and give it to someone with the appropriate authorization level. The procedure at NL is roughly the same, except that they print out the screen on which the error appears if it must be passed to another party for correction. Having to pass the error on for correction may appear cumbersome, and it was noted as being so by the institutions, but it does safeguard the database, and it is not so very different from some manual catalogue maintenance procedures that involve referring entry conflicts to a professional for resolution.

The 49 character display limit on the initial display screen was pointed out as a cumbersome feature of CLL DOBIS.

NL felt that loading databases was its biggest problem at present; it is top priority for the NL programmers to get this working as soon as possible. Nancy Brodie noted that the review (proofreading) procedure is very cumbersome and time-consuming on NL DOBIS, involving scanning many screens. A "cataloguer's display" would resolve this problem.

CLL was pleased with the way their added copies processing was speeded up by DOBIS, and also that they had been able to salvage some positions when the input operators were no longer required. NL observed that staff seemed to enjoy original input on DOBIS.

Cataloguing: questions

Description

1. How difficult is it to correct an error in a record found in the database?

On WLN the actual editing of the record to make the correction is done by moving a copy of the record into the work file, making the change, and then sending the changed record to the Network Office for review. PLU and King County gave us different impressions of the difficulty of having the change accepted. PLU indicated that there is no problem at all; they suggest that it is a good idea to attach a message explaining the change to the Network staff, and they have been asked to send along a copy of the title page on occasion, but they did not appear to consider it difficult to have a record changed. King County said that if other libraries had holdings attached to the record they had to get permission from them to make the change. If it was an LC record, they had to advise LC of the error. Then they had to convince the Network staff that the record needed to be changed. Generally, the impression was that it was a major undertaking to accomplish the change. The Network Office supported the PLU viewpoint, when asked to describe how such a change would be initiated. It is Network policy to upgrade records whenever possible.

It is easy to correct data on either version of DOBIS, using the controlled cursor and editing function keys. The staff member who finds the error may or may not be able to correct it, depending on his authorization level.

2. Is there provision for local information, e.g. notes?

WLN allows for local 500 (General note), 506 (Limited use note), and 908 (Washington State documents distribution code) fields, as well as a message field that is deleted when the record is added to the permanent database. However, the local notes do not appear in the COM catalogue. They do appear on the institution's cards. Ray DeBuse explained that the users' COM catalogues are run as subsets of the union catalogue, and local information does not appear in the union catalogue. Correcting this situation is a high priority at WLN. They expect it will take 3 to 4 months to get to this development in the programming queue, but only a week of actual programming effort. A more serious problem is that the local data are lost when an LC source record replaces one input by a participant. WLN intends to solve this problem, and it is a higher priority than the change to the COM specifications.

CLL DOBIS has not implemented the local files, other than for Ryerson's holdings. NL has, and local notes can be added there. Seeing the data on-line is less than straightforward; the local records have to be accessed in a separate search, and there is no indication on the system display that local data, other than holdings, exist. NL plans to improve this.

3. Are diacritics and special characters available?

WLN provides diacritics and special characters on their specialized terminals. They can handle the ALA print train characters, and these are printed on the cards. Diacritics do not appear on the COM products yet because the COM service bureau WLN uses lacks this capability. There is not enough business in that area yet for him to provide it.

Diacritics and special characters are available on both versions of DOBIS. On CLL DOBIS, square brackets are treated as special characters, which makes them rather awkward to enter; they are frequently used in cataloguing.

4. How are diacritics and special characters entered and displayed at the terminal?

The diacritics appear on the keys of the WLN terminal, and a "Set 2" key is used to bring them into play. Diacritics which appear over or under a letter are entered preceding the letter they modify; special characters occupy their own place on the print line. The actual diacritic or special character is displayed on the screen. Ligatures are keyed as two half ligatures, as in UTLAS.

CLL DOBIS uses equivalent characters for diacritics and special characters, and they must be entered in two ways, depending on whether they occur in access points or in notes. For access points, a special diacritics input screen is provided, which allows the cataloguer to insert the equivalent character under the letter to be modified. For notes, the equivalent character is entered before the letter to be modified, introduced by a logical not sign. For special characters, the underline is used as a base character and the appropriate equivalent character used in the same way that they are for diacritics when the base character is a letter.

NL has re-defined enough unused characters on its terminal keyboard to accommodate all the diacritics and special characters on the ALA print train. Treatment of diacritics depends on what hardware is used.

Classification

1. How does the system handle two different call numbers for the same item in the same library, or in the same sublocation of a library?

On WLN the two call numbers are entered as separate holdings records, each one accompanied by the library location symbol. They display in the order in which they were input. There is a separate $1.60 charge for each one.

It would be impossible to accommodate this situation on CLL DOBIS at present. The system would have to be modified to use local files, or two copies of the record would have to be entered, one

for each call number, and a new relationship defined between them.

On NL DOBIS there would be no problem. Each copy of a title has its own holdings record, and the records for the two call numbers can co-exist attached to the same bibliographic record. Products would be ordered for each copy independently.

2. Are there any restrictions on what can be entered in the local classification field?

WLN requires that something be entered in the classification area, but it doesn't matter what it is. All types of classification numbers and letters are acceptable, plus non-classification indicators such as "Micro" or "F". The participants have tried to standardize these non-classification indicators to tidy up the display.

CLL requires that some "call number" be entered, but there is no restriction on what form it takes. NL has no restrictions at all.

3. Does it allow for Dewey, LC, NLM, NAL, and local schemes?

WLN and both DOBIS versions do. See above.

4. Does the system catch or block duplicate call numbers?

WLN does not block them. It identifies call numbers that are the same as ones already on the file for a title, and adds the new library's symbol to the line on which the matching call number appears. This prevents the storing of redundant call numbers, but it does not prevent a library from entering the same call number for two different titles.

DOBIS would merge the two call numbers and increment the record counter for the number by one. If a library that requires unique call numbers sees an entry in the call number access point file with more than one document attached to it, it knows that remedial action is needed. The system itself will not issue an error message.

Access points

1. Is there provision for additional local access points?

WLN allows local 6XX (Subjects), 700-730 (Added entries), and 8XX (Series entries) access points to be added to a record. They must be consistent with the entries in the Authority File. Institution dependent data is displayed only to the institution to which that data belongs.

Additional access points desired by only one institution would have to go in the local files on DOBIS. CLL has not implemented local access point files, so local access points have to be added at the system level and used by everyone who holds that title. NL DOBIS provides for local access points.

2. Is there provision for local alternatives to existing access points?

Not in WLN.

CLL had never been asked for this provision. They were not sure how they would handle it, since one can't relate access points between files. The system would not know which local access point was to replace which system one in products. NL has addressed the problem but not resolved it.

3. How are access point errors corrected? Can a group of records be moved from one Authority File entry to another?

In WLN the Network Office does all changes to established Authority File entries, as a matter of policy. It is a simple procedure to actually process the change. Participants attach a message to one of the bibliographic records using the heading advising the Office of the error. The Office staff use the normal editing functions of the system to correct the access point in the authority file, and this corrects all records that contain the incorrect heading.

It is easy to correct access points, and to move records from one access point to another, in both versions of DOBIS, provided one has the necessary authorization level. At CLL three of the technician II's have this authorization. They correct the error using the normal editing functions, and the correction is made to all records using the access point. The same procedure is used at NL, but NL also notifies its clients when a record they have used is altered. Each client advises NL of the types of changes they want to have reported.

4. How difficult is it to add authority information, e.g. cross-references, history notes, etc.?

In WLN this is done by the Network Office staff, again as a matter of policy. A participant simply attaches a message to a bibliographic record -- any record, not necessarily one affected by the entry in question -- suggesting that the reference or note

be made. Making the addition to the file is not difficult, using the normal input routines. The system prevents blind cross-references.

It is not difficult to add references on DOBIS, using the normal input screens. Neither installation has advanced very far in adding references to its authority files, though both have some in. NL's DOBIS prevents blind cross-references. Both organizations expect to load the source authority records from LC and NL, and NL plans to load the SHARAF file, so they are not putting much emphasis on enriching the existing files.

5. Is there any overall review of the authority information, other than on an encounter basis?

WLN Network Office staff scan print-outs from the Authority File as time permits.

CLL also scans the access point files and corrects them as time permits; there is no systematic review. NL does not have any overall review, relying instead on users of the files noticing errors and correcting them, or printing out the screen on which they appear and reporting them to the Data Administration Group for correction.

6. Are subject headings under authority control?

Yes, in WLN.

They are also controlled in both DOBIS versions, since they appear in the subjects access point file. The initial display on CLL DOBIS does not indicate whether a heading is LC, NLM, or other subject heading scheme, but it is possible to determine the source of the heading in the detail screen for the heading. Names used as subjects are in the subject file and not related in any way to the same name used as a name access point.

7. Are series under authority control?

Yes, in WLN, but this applies only to traced series; untraced series are not in the Authority System. The Network follows LC's policies on whether a series is to be traced or not.

Series are under authority control in both DOBIS versions, but they are handled differently. At CLL they are simply included in the name or title file as appropriate. At NL each serial entry is treated as a mini serial record. Series are being input as preliminary records at present. The individual titles in the series are linked to the series record by a relationship link. The advantage of this approach is that it is possible to code a great deal more information about a series than would be possible if it were simply treated as an access point, and it will be possible to relate records in a series when it has been treated differently by different libraries, e.g. as a serial in one and as a monograph series in another. Untraced series can also be controlled, and suppressed for products.

8. How is local series information as to cataloguing and classification treatment, collected numbers, etc. handled?

This information is not stored in the WLN system. PLU maintains a series authority file on cards, which contains decisions as to treatment. King County consults other titles in the same series on-line.

At CLL this information is recorded in the notes field of the series authority record; separate decisions are recorded for each location. At NL this information goes in the copy level data (local holdings file), attached to the mini serial record, which has a separate input screen and display for each location.

9. Is there provision for a local decision as to whether a series is traced or not?

WLN policy does not permit this; they follow LC. PLU and King County do not find this irksome, so long as LC is consistent. There is provision for a local 8XX field but not for a local 400 - 440 field; it would be necessary to repeat the series in the local 8XX to trace it in an institution's own products.

It is not possible in CLL DOBIS; if they used local access point files, the desired series access point could go in the appropriate local file. NL felt the decision should be made at the system level, and presented us with their guidelines as to which series should not be traced (the same guidelines we have wrangled over in the past without reaching agreement.) Mary Joan admitted that it would be possible to trace a series locally, by putting the mini serial record in the local file and coding a special relationship between this local record and the bibliographic records related to it to indicate that it was to be traced in the institution's products.

10. Is there provision for an individual library to use or not use uniform titles as required?

WLN does not allow individual choice on this matter. If LC uses a uniform title the participants use it. It does not appear on cards, so participants with card catalogues can still add one locally if they need it.

Uniform titles at CLL go in the title access point file. As they don't use local files (except for Ryerson's holdings file) it is impossible to make a local decision on uniform titles; they go in for the system or not at all. In the NL system, it is possible to put uniform titles in the local access point files and set their indicator there to print or not as required. It would also be necessary to code the institution's product profile to show that local uniform titles are to over-ride system uniform titles for product generation.

11. What provisions have been made to load source Authority Files?

WLN has received a grant to rewrite its authorities subsystem so that LC source authority records can be loaded. At present, the Authority File contains headings stripped off LC and participants' bibliographic records, plus references and notes added by the Network staff. The Authorities project is planned to take two years, including the "flipping" of the AACR2 headings during the first 6 months of 1981. NL and CLL will also have to do some programming before they can load the source authority files.

Holdings

Although WLN has coded and tested its detailed holdings subsystem, the subsystem has not yet been implemented. Only the provisions to record branches (but not their sublocations or holdings) are actually in operation. Participants maintain their own local holdings records. The present WLN holdings statement is limited to call number, location symbol, and a summary holdings statement for serials. The detailed holdings subsystem is not in use yet because there is still some work to be done on it: it still lacks back-up and restore functions; it is not under ADABAS control; the billing mechanism remains to be worked out; and the printing of copy/volume holdings in products still has to be developed. WLN is surveying its members to see what they require from the system. We have a copy of the specifications for the Detailed Holdings subsystem at its present stage of development, and the following comments on WLN are based on this.

1. Can the system handle the multi-location holdings data required by our network?

WLN's Detailed Holdings Subsystem will allow for multiple sublocations, such as branches, within a library, and an additional 3 levels of sublocation within each of those units;
e.g. Undergraduate Branch
Science Division
Reference Section
Abstracts Area

DOBIS does not provide a hierarchy of locations. Each separate location must be defined separately. It is fairly easy to add locations, as they are controlled by tables.

2. Can it handle copy numbers which are numbered from 1 in each branch as well as those that are numbered sequentially throughout the library system (i.e. does it block duplicate copy numbers within a library system)?

WLN's Detailed Holdings Subsystem will allow both systems of copy numbering. However, it appears that it will block duplicate copy numbers within a branch (see p. 3 of the specifications). This may be a problem for libraries that rely on accession number or bar code number to render otherwise identical call numbers unique. A separate holdings record is made for each copy, i.e. if a branch had 8 copies these would be represented by 8 holdings records, not by one record showing c.1-8. Holdings data entry will be facilitated by commands that allow the operator to copy an existing holdings record and change only that part of it that is different in the new record, e.g. the copy number. Holdings data will display in the order in which they were entered. There does not appear to be a way of displaying all of the copies in a branch together if they were entered alternately with those for other branches.

CLL's DOBIS allows for recording detailed copy holdings only in the LIBIS package implemented at Ryerson. The "copy number" as we

know it is not used, being replaced by the unique DOBIS piece number. If any other location has multiple copies of a title its location symbol appears the appropriate number of times in the holdings display.

NL's DOBIS has developed the local holdings fields, and can accommodate both types of copy numbering. Each copy is entered on its own screen, and is treated as a separate holdings record. The copy number is entered in the call number supplement subfield. The system cannot yet display the holdings sorted by location; instead, they appear in inverse order from the order in which they were entered. For products, they will display by location; CISTI has requested this arrangement for its products.

3. How is volume holding information recorded? Can it show both physical and bibliographic holdings?

WLN's Detailed Holdings Subsystem will provide for both a summary holdings statement and a piece-by-piece record of holdings. It will not automatically derive the former from the latter. There are no restrictions on format or on the length of a field in the specifications. For summary statements separate subfields are provided for:

- volumes
- dates
- "incomplete" note
- referral note (e.g. See Serials Division for holdings)
- retention note (e.g. Library keeps current year only)

There are also fields for general notes that display in the catalogues, and for general notes that display only on-line; a note to provide additional location information, such as "Latest in reference; other volumes in Stacks"; a bound-with note; a limited use note; and several others.

For multi-volume sets, there is provision to record a copy number for the set as a whole in the copy number subfield of the holdings record for the set; this field has a limit of 3 characters and appears to be mandatory. Those of us who identify our multi-volume titles as "Set" might have to enter the set number in the copy number field, and then enter "Set [n]" at the beginning of the volume or date holdings summary. (This is speculation; since no one is actually using the subsystem we are not sure what the limitations might be.)

The "piece" information field has 4 subfields:

- piece description (call number extension)
- piece number (bar code/accession number)
- piece note
- piece price

There could be a separate "piece information" field for each physical piece in a multi-volume item, if a library wanted to record holdings at the piece-specific level. The specifications do not indicate whether these fields also display in the order they were entered, as the holdings records themselves do. If so,

there could be problems with volumes that arrive out of sequence, supplements to specific volumes, etc. Ray DeBuse says that the system will generate a type of holdings summary based on the record for the first piece, but it does not look at the other piece records; so it would be necessary to summarize any gaps in the set on the record for the first piece if we wanted to display them.

CLL creates a separate "child" record for each volume in a set and relates it to the "parent" record for the set as a whole. This "child" record can contain a title as well as or instead of a volume number. Institutional holdings are recorded against the "child" record, i.e. for each volume in the set, rather than against the record for the set.

NL can handle the "parent-child" record relationship, but it also has provision for a holdings summary, either by date or volume numbers, in the local holdings record for a multi-volume set. The set number could go in the "Call number extension" subfield if set numbers are used. There are no physical restrictions on the format of the holdings summary, except that it must not exceed one screen. The holdings summary now used by UBC to show both physical and bibliographic holdings in one summary would fit into this subfield with no difficulty. NL has developed input conventions for holdings.

4. Can the system handle multiple sets, multiple copies of volumes within sets, dates associated with specific volumes, and accompanying material?

See the above comments on WLN's Detailed Holdings Subsystem. Multiple sets would be treated as multiple copies. Extra copies of volumes within sets, dates associated with specific volumes, and accompanying material could be handled in the volume summary subfield, as we do on UTLAS; or, if the piece-level description was used, this information could go in the piece description subfield.

Both CLL and NL DOBIS can handle these holdings, using the format described above. CLL can draw the holdings of a single location together for the COM product, but on-line they must be accessed by volume number/title rather than by location.

5. Is there provision for general holdings notes?

There will be, in WLN. See the comments in question 3, above.

CLL DOBIS does not appear to have a place for a set-specific note like this. NL DOBIS has a place for various notes in its copy/set level holdings summary screen.

6. How are serials holdings recorded? Is this holdings format compatible with Mini-MARC 850 specifications?

The WLN Detailed Holdings Subsystem is planned to handle serial holdings as well as those for monographs. The 850 subfields $a to

$a, $m and $q are there, with different subfield codes; the other 6 subfields and both indicators are missing.

CLL has not developed the serials portion of its version of DOBIS; it doesn't process serials. NL can record an 850 Semi-formatted level holdings summary for each set in its copy/set level holdings screen. Mary Joan said that the DOBIS specifications are not entirely compatible with Mini-MARC 850 in that they lack some of the specific notes subfields, but NL is working on bringing them into line.

7. Is there provision for other local information, such as accession numbers for individual pieces, or local system numbers for sets or titles?

WLN's Detailed Holdings Subsystem provides for a "piece number" in its piece information field. There appears to be no provision for a local linking number at the set or title level. This will be a problem for libraries with local systems that they may want to interface with the network system, such as a local serials management system. CLL has not implemented local files except for the Ryerson LIBIS system, and this operates at the piece level. Again, there does not appear to be a place for linking numbers at the set or title level, although local numbers such as bar codes can be accommodated at the piece level. NL DOBIS provides an "Other numbers" access point file for local bibliographic linking numbers. Numbers pertaining to individual volumes or copies can only be stored as part of the holdings summary statement. They can be used as access keys if they are also entered in the local "Other numbers" access point file.

Quality control

WLN has developed a very sophisticated automated editing facility to encourage members to enter high quality records. (See our discussion of this in the earlier section on Special features to assist the cataloguer.) This is backed up by a policy of high cataloguing standards for Network participants. The Network follows AACR, LC subject headings, the latest edition of Dewey, and the latest versions of the LC classification schedules. They follow LC's interpretations exactly. All bibliographic records added to the database by participants must undergo review and approval by the Network Office. Participants are expected to use the edit facility and the work files to review their own work before submitting it to the Network review. As Rosemary Schold expressed it, "The Network Office review should be ceremonial." Apparently some participants either have difficulty maintaining the required standards or are not checking their own work; the Office review is far from being "ceremonial" and identifies numerous errors; serious or consistent ones are returned to the inputting library for correction. Rosemary felt that the reviewing staff was in a delicate situation, trying to maintain the standards without damaging the egos of the participants. Participants who do not check their own work impose an extra burden on the review staff, and this delays the review process for the other participants. The present review file contains about 2700 records, about a two-week backlog, and this is not considered satisfactory. Products are not produced until the records have cleared the reviewing hurdle. This could become a serious bottleneck if insufficient staff time is available for the review. In studies they have done, the reviewers have been able to process between 17 and 50 records per hour; 17 is considered extremely slow, but it may become that bad when records are not checked by the institution, or when a new institution is being trained.

The reviewing is being done by 9 cataloguers from the State Library. They spend 10 hours per week reviewing for the Network Office. Rosemary feels that it is an advantage to have professional cataloguers doing this work part time; they are inclined to be more practical in the changes they require, since they know the work that is involved; they also are in touch with the cataloguing rules and standards on a day-to-day working basis. There are disadvantages in having a number of people involved in the process though: it is difficult to achieve consistent interpretations, despite having established standards for the Network and written guidelines as to what is checked. (See Appendix D) The reviewers maintain a "review note" file for each other, to record problems that took more than 5 minutes to resolve and what was done. The reviewers are careful to cite actual rules when pointing out errors to participants.

CLL has developed an automated edit for newly input records. It checks for the presence of various fields, including main entry, title, call number, language code, place of publication, etc. Cataloguers generally check their own work as they enter it at the terminal. A cataloguer can also ask to have the card set

returned for proofreading after it has been run. However, that check will not catch errors in the fixed fields, and apparently that is where many errors occur.

NL's review process involves examining the record on-line, a time-consuming procedure because many screens must be examined. Because the fixed fields and bibliographic data are on separate screens it is not possible to view them together on-line, making it difficult to detect errors in the fixed field area. Each user of the system has its own procedures for reviewing input. NL does not intend that a central quality control group would ever review all input. Its present Data Administration Group is developing procedures to deal with specific types of changes now being made or requested by users of the system.

Products

1. What products are available?

WLN produces catalogue cards, spine labels and book card/pocket labels, COM fiche and film, printed listings (generated from inquiry searches at the terminal and printed out on a remote printer), KWIC listings (also produced from terminal searches), magnetic tapes in the MARC communication format, and special listings on request in any of the above media. Cards are distributed in sets. WLN originally provided sorted cards as an option, but there was no demand.

Both CLL and NL DOBIS use report generators to produce their products, and both programs were written in-house. A report writer program is available in LIBIS, but CLL said it did not meet their requirements. CLL produces catalogue cards in sets, COM fiche, printed listings, KWIC listings, and special lists as required, as well as spine labels and book cards. The labels and book cards are produced on 2 IBM 2741 communications terminals, and are printed 4-up. We did not see the card printer, but it is also on the premises. COM film could also be produced, but there has been no demand so far. CLL is having difficulty displaying its "parent" and "child" records for multi-volume titles on COM; only the first record input for each location displays, and this may not necessarily be the first volume in the set.

NL's report generator can produce COM fiche and film, printed listings, and magnetic tape in CANMARC communications format. NL is working on programs to produce cards and KWIC listings.

2. What format options are available for each product?

For cards, there are relatively few options in WLN; they would like to get out of the card business eventually. For COM, 42X and 48X reductions are available; there can be a variety of catalogue configurations, e.g. separate author, title, and subject listings; scroll format is used for fiche; register-index format is available. Both full and brief records can be used in some fiche sets. Sorting is based on the Rather rules. There is no choice of type fonts yet.

CLL provides options as to the number of cards only. Formats are not variable. This is CLL's policy limitation, not a limitation of the system.

NL provides options on its fiche, which are similar in format to the Canadiana fiche. The Rather rules are used for sorting on COM. Fiche can have scroll format or 2-up pages. A register-index format is available. Paper listings can be printed on 15 x 11 or 15 x 14 inch paper. The card format is still undergoing development.

3. How long does it normally take to set up product profiles?

Ray explained that there were relatively few options on WLN, so

the profiling procedure is not difficult. It takes about 15 minutes to set one up, and about 3 days altogether to make it operational.

Since CLL's options are limited to the number of cards, labels, etc., it is very quick to set up the user's profile. NL allows one month elapsed time to set up a profile and generate a product that is identical to an existing development; 2 months if it is similar to an existing development; and will provide estimates for unique requirements on an individual basis. All of these estimates assume that the programming resources are available, and the development has priority to go ahead; there is little time for developing specially tailored profiles.

4. How long does it take to change a profile, generally?

Allowing for testing, etc., it takes about 3 days at WLN. There is no charge.

CLL can change its profiles very quickly because of the limited options. NL suggests 2 weeks for a minor change and a month or two for a major change, providing resources are available.

5. How much flexibility is there in terms of different outputs for different cataloguing operations, e.g. added copies card sets, full card sets, extra cards, etc.?

It is possible on WLN to set up multiple profiles, and also to order individual cards or sets in whatever numbers are required. When the request for products command is entered, a menu screen appears on which the operator can designate which profile to use, or to override the profile with specific requests. It is not possible to set up specifications for groups of libraries which use the same profile and have the system determine from the location code what the products should be.

CLL can over-ride profile specifications by using a special product request screen; thus they can order as many cards, labels, etc., as they want on an individual basis. NL will provide no options, just the standard number of cards specified in the profile every time products are ordered.

6. What restrictions are there on records that will affect products, e.g. is there a maximum field length or maximum number of occurrences of a field?

There is the overall record size limit of 3000 characters on WLN. A record can have only one main title and one main entry. If a product request can not be satisfied the user is given a diagnostic printout. There are still some problems with the serial cards, especially the print constants.

CLL says it depends on the operating environment. They have overcome the main limitation of DOBIS, the 255 character title field. Their products include the "Title overflow" field and it prints right after the title so that the user is not even aware

that it is a separate field. NL DOBIS' overall limits (see Appendix C) apply to the products also; there are no special restrictions for products.

7. Can cross-references, see-also references, history notes, etc. appear in COM products and paper listings?

Yes, in WLN. The system also ensures that the references are not blind.

CLL does not print cross-references in its COM products. There were no cross-references in their UTLAS records, and they have only begun to enter them now. To print them will require a change to their COM specifications. There is no check for blind cross-references yet.

NL plans to include references in its COM products once there are enough references in the system.

8. Is there provision for local references, i.e. that would appear in one institution's products but not in the union COM?

Not in WLN.

CLL does not allow for this type of local information. NL will be able to print local references when required.

9. Can a product contain a mixture of local and system bibliographic fields, or must it be either all local or all system?

In WLN, cards can contain both local and system data. COM must be all system data.

CLL does not include local data, other than Ryerson's holdings. NL will be able to handle a mixture of local and system data, using special profile matrices to determine for each client when local data should over-ride system data or print in addition to it.

Implementation and training

1. What system documentation is available?

See list in Appendix A for both systems.

CLL is of the opinion that no documentation is necessary to use DOBIS. They have none. NL feels just the opposite, and they are hard at work developing their own documentation for the system. They found the lack of documentation a training problem for their staff. They have written a user's manual, which is usually consulted when starting to use the system, and an extensive input conventions manual, as well as other documentation on the system. These documents were not available to the Study Team when this report was prepared, although some of them became available subsequently. NL has a part-time person working on the documentation now, and they are trying to obtain a full-time position to maintain it in the future. It is in a text editor for easy updating.

2. Is it easy to use?

The WLN documentation is comprehensive. Separate manuals are available for each major function of the system. They do not describe workflows, but do give an overall view of the features available in each module. They are clearly written and easy to consult. There are numerous examples. They do not include indexes, but the tables of contents are sufficiently detailed to serve as indexes. The manuals are kept up to date by a series of Technical bulletins, and compilations of the "daily news" that appears on the terminal are issued from time to time.

The WLN Network Office is not satisfied with its documentation, although the users seem to be. The Office has hired a person to revise all the documentation over the next two years and put it in a text editor so that it can be updated easily.

We did not have access to the NL DOBIS documentation during our study, except for the "Relationships input convention", so are not able to evaluate it in general. The "Relationships" document is comprehensive for that area.

3. How often is it updated?

For WLN the Technical bulletins serve to update it on a continuing basis.

NL issues a Weekly DOBIS report to update the manuals and give news about the system.

4. What training aids are available?

The WLN manuals themselves are good training aids, and PLU commented on the error messages that they receive at the terminal as being a good way of learning about the system. Among the manuals available are two which provide a programmed learning

approach to the inquiry module. The Network Office and the State Library provide "MARC schools" for new participants but there are no formal curricula for these. Rosemary said that they usually do a series of them: a 3 to 4-day workshop to teach tagging, etc. for books; then a 1 day workshop about 2 weeks later to cover input/edit; then a 2-day course in serials format and tagging (which assumes the trainee is already familiar with the books format); and a 1-day workshop on coding records for films.

CLL feels that the system itself is its own best training aid. NL provides its trainees with print-outs of screens in sequence for certain functions. They have guidelines for determining whether an incoming NUC report matches an existing record or not, and some guidelines on how to search by standard numbers. Additional training aids -- flowcharts, checklists, etc. -- are being developed for the federal libraries.

5. How long does training normally take?

We were not able to answer this question satisfactorily for WLN because there had been virtually no staff turnover in either of the institutions we visited since they had begun using the system in 1977. PLU had trained a new senior library assistant, but her training had included all of the routines used in the division, and it was difficult for them to estimate the amount of time it had taken her to become familiar with WLN. She guessed that it took about 5 months to learn the whole system, and she stressed that she is continuing to learn things about it. She felt it would take about two weeks to master the searching and derivative cataloguing processes. King County also felt that the derivative cataloguing routine could be learned quickly.

Neither library experienced organizational change as a result of introducing the WLN cataloguing and searching functions, although PLU was able to transfer one professional to reference service when the WLN Acquisitions System replaced their manual procedures. King County had already been using batch-oriented automated systems (Xerox, Cardset, and Blackwell North America) prior to introducing WLN.

CLL trained its staff in pairs, starting with the senior people, who then trained their juniors. It took a couple of months to train the original cataloguers, who were already familiar with MARC but not with on-line systems. The training time for the derivative cataloguers varied widely; one learned in less than a week, while another had to learn to type first, so took much longer.

The National Library's Union Catalogue of Books staff find that it takes about 3 days to train a searcher who already knows the parts of the card, and a week otherwise. Original input training takes about two months, but this includes learning the procedures as well as the system. Generally, a new staff member will be familiar with the system in two to three weeks. Their learning continues indefinitely, as they experiment with the system.

Appendix A: DOCUMENTATION

The following documentation was examined.

DOBIS

Dortmund Library System. Librarian's guide. Program no. 5787-DAA (SH20-2347-0) February 1980. 91 p. (The cataloguer's manual)

Dortmund Library System. Online realtime cataloging and searching. [3 p.] (Brochure)

Dortmund Library System. Program description/operations manual. Program no. 5787-DAA (SH20-2348-0) February 1980. 107 p. (Systems manual)

Leuven Library System-Batch. Card and COM catalogs, Report Writer, cost justifiable installed user program. [3 p.] (Brochure)

Leuven Library System-Batch. Program description/Operations manual. Program no. 5787-FAH (SH20-2350-0) February 1980. 171 p. (Systems manual)

Leuven Library System-Online. Librarian's guide. Program no. 5787-FAJ (SH20-2351-0) February 1980. 62 p. (The user's manual for acquisitions, circulation, and interlibrary loan)

Leuven Library System-Online. Program description/Operations manual. Program no. 5787-FAJ (SH20-2352-0) February 1980. 32 p. (Systems manual)

Leuven Library System-Online. Online realtime library circulation and acquisitions [3 p.] (Brochure)

Relationships input convention. Library Systems Centre, Govt. of Canada. 45 p. (A supplement to the DOBIS data input conventions manual)

Washington Library Network

Acquisitions reference manual. 1st draft. January 1979. 137 p.

Computer system description. Parts 1-6. 1977-79.

Data preparation manual : Books. 1st draft. December 1977. 347 p.

Data preparation manual : Serials. 1st draft. May 1978. 671 p.

Detailed holdings subsystem. December 14, 1978. 12 p.

Diacritics and special characters. 1976. 31 p.

Hazeltine Modular One Bibliographic Terminal reference guide. 15 p.

Input/edit manual. 1st draft. December 1977. 165 p.

Inquiry reference manual. 1st draft. 1977. 105 p.

Inquiry self-instruction manual. Part one. 1st draft. 1977, c1980. 45 p.

Inquiry self-instruction manual. Part two. 1st draft. 1977. 31 p.

Interim record manual. 1st draft. 1977. 34 p.

Precataloging request manual. 1977. 16 p.

Products request manual. 1st draft. July 1977. 16 p.

Summary holdings maintenance manual. 1st draft. 1977. 28 p.

Technical bulletin series. (Issues describe changes in the system, clarify network policy, or suggest efficient ways to use the system)

Worksheet preparation manual : Serials. 1978. 48 p.

APPENDIX B:

Guidelines for the Network Review Process (WLN)

NLM BOOK WORKSHEET (MONOGRAPHIC) 8/1/79

REC TYP	BIB LEV	ENC LEV	BIO	compare with	REPLACE MFD
a	m		CAT S, CAS		

	check that choice of ME is justified by AACR; form is correct AACR with proper abbreviations & punctuation; if birth date of DEP before 1930, check date close to see if heading has been updated; compare with TIL and IMP for ME in Note for each entry, list verification source. R; compare with CCDF.
DTE	
TIL	division between "a" and "b" subfields should leave title proper fairly distinctive; break between "a," "b" subfields and "c" subfield is logical; check for correct usage of abbreviations in "c"; compare with LAN.
EDN	
IMP	check to see that place of publishe is qualified by state (or not); check for correct abbreviations in publisher information; deletion of unnecessary publisher information; compare with CNTRY, DATE KY, DATE 1 and 2, GOV PUB
COL	should not be more than 3 groups of paging; if multi-volume, compare with NOC, if open volume compare with dates in IMP and fixed field dates; compare with ILLUS
SE	question series appearing author. title form and tagged as SE-; compare SERD with SA-

	Note: For subject and other added entries, list verification source.
	Translation of.... - compare with LAN
	if NOG "Loose-leaf for updating" appears, compare dates in IMP, "a" subfield of COL, fixed field dates.
	Microfiche/film note - compare with REPRO
	"Includes index" - compare with INDEX
	Reprint note (or in series, IMP) - compare with fixed field dates
	NOB - check that bibliograph information appears in correct note form; compare with CONTENTS
	Subjects - compare with CONTENTS, GAC, BIOG, CONF, REPRO [Large type books] FEST
	AE- -check that added entries are justified by information in cataloging record; check for closing dates in headings; check for correct AACR form in AEC and AEM; check correctness of second indicator
OTHERS	SA- -check known problem series; watch for generic titles ISBD punctuation, correct abbreviations
	ROM - check MOD REC

WEE	GAC	should be juscified by TIL, subjects	SBN	10-digit ISBN	
LC Ca	Cong		CAT	compare with FIC, BIOG, INTEL LV; no "DW" subfield for local CALX	
CDC	compare with FIC, BIOG, INTEL LV		CAS	compare with CAT S; if no "a" check	
			RID	should be IC#; if cooperative library in "a" check "y" in CAT S	
MED to Dec 7-79	cat for				

Fic	Cat from new to pub		
Gov pub	Index		
Conf	Fest		
ME in R	Date by		
Date 1			
Date 2			
Intel Lv	Biog		
Cntry	Illus		
Repro	Content		
Mod Rec	Cat S		

WLN SERIALS WORKSHEET

ENC TYPE	BIB LEV	ENC LEV	RID	Check against	REPLACES RID
a	s			CAS, CAT S	

PUB STAT	BEG DAT
agree w/ DAT	agree with DAT

END DAT	ENTRY
agree with DAT	IMP -

FREQ	REGLTY	INDX
agree w/ FRQ REGLTY	agree w/ FREQ	KEY ISSN

TYPE SER	PHY MED	REPRO
agree w/ text	agree w/ text	agree w/ text

TYPE MAT	CONTENTS	GOVT PUB
agree w/ TIL SUT	agree w/ NO_	IMP

CONF	ILL PG.	INDEX
agree w/ MEN SUT,TIL		

CUM IND	ORG. ALPH	S/L ENTRY
NOM	KEY	FOR NOY

MOD REC	CAT S	CAT FORM
	RID CAS	

NAME Correctly tagged, esp., whether NCC or MEN.
Correct form of name.
For main entry, list verification source.

TIL Initials appear in TIL ($a) - corporate main entry?
Initialisms, nos., etc. - VAA present
Look at TYPE MAT (directories, bibliographies)
Parallel title (both $b & VAT-L present?)
Indication of geographic area in TIL - GAC?

DAT Agrees with PUB STAT, BEG DAT, END DAT

IMP IMP-R present? Then AE_ must be alternative (A).
ME_ present, no $b in IMP, then X must be present.
Place represented in CNTRY.
Government publication? So indicated in GOVT PUB?

COL

SE Regardless of what SE_ is (are) used, corresponding NAS (s) must be present.

NOTES For subject and other added entries, list verification source.

ADDITIONAL CKS:

spelling
following current cataloging practices
punctuation
capitalization
tagging
sense within a record

LINKING:

OTHERS:

NOY (ind. 0) - AE -A present?
NOYX - additional info. present? S/L ENTRY checked?
different ME_ present? S/L ENTRY checked?
NOG (series) - NAS present?
NOX - REPRO checked?
NOB - CONTENTS filled in?
NOF - corresponding linking entries present? 1st ind. X?
NOT - FORX present? S/L ENTRY checked?
NOL - LAN, MOD REC checked?
NOM - CUM IND checked?
NOE - added entries? Secondary?

SUBJECTS:
subdivisions and FFD in agreement? (TYPE MAT, CONTENTS, CONF)
correct form of entry?
geographic orientation (GAC)?

OTHER ADDED ENTRIES
correct form of entry?
AEG - PHY MED, TYPE SER
justified

FRQ agrees w/ FREQ, REGLTY?
ABB present w/o KEY?
FOR present - S/L ENTRY checked?

FF	GAC	SSN	
LAN e.g., eng	NOL, MOD REC	CAT	1st ind., $b, CAS, RID
[illegible]		CAS	RID, CAT S

[illegible] cat for

APPENDIX C:

Table of System Limitations (NL DOBIS)

6. TABLE OF SYSTEM LIMITS

Limit on the length of data entered in an access point

Name	4 screens	12 lines/screen	77 char./line	limit of 1500 char.
Title	3 "	"		"
Subjects	3 "	"		"
Call nos	3 "	"		"
Control nos	3 "	"		"
LC card no	3 "	"		"
Miscellaneous numbers	3 "	"		"
Shelf list				

Limit on the number of Access points that can be attached to a document record

Names	18
Titles	14
Subjects	24
Classification #	5
Control nos	8
LC card nos	5
Misc. nos.	20
Shelf list	1 per copy

Other limits

Notes 20 (or limit of 1500 characters) 1 screen/note
Relationship* 49
Cross references* 80
Updating a record 50 new references
Dates and defaults 26 characters
Fixed fields: general (mon.) 16 characters
Fixed fields: general (serials) 17 characters
Leader fields 18 characters

Note: Do not forget that going into local files gives you space for 1500 characters.

*Pointers and functions that link an Access Point to a record takes between 5 and 10 characters.